SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Environmental Assessment for Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments To Reduce Emissions (WAIRE) Program and Proposed Rule 316 – Fees for Rule 2305

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ACRONYMS

3PL	Third-party logistics provider
AB	Assembly Bill
ACEC	Area of Critical Environmental Concern
ACT	Advanced Clean Truck
ALUC	Airport Land Use Commission
APS	Alternative Planning Strategy
AQMP	Air Quality Management Plan
AR4	Fourth Assessment Report
ARA	Air Resource Advisors
ATCM	Airborne Toxic Control Measure
ATCP	Air Toxics Control Plan
BAER	Burned Area Emergency Response
BAU	Business as usual
BCO	Beneficial Cargo Owner
BLM	Bureau of Land Management
BMPs	Best management practices
CAA	Clean Air Act
CAFÉ	Corporate Average Fuel Economy
CARB	California Air Resources Board
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CAL FIRE	California Department of Forestry and Fire Protection
CAMP	Community Air Monitoring Plans
CAP	Criteria air pollutant
CBC	California Building Code
CBSC	California Building Standards Code
CC	California Code of Regulations
CCAA	California Clean Air Act

CCP	Clean Communities Plan
CEC	California Energy Commission
CERP	Community Emission Reduction Plan
CEQA	California Environmental Quality Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CGP	Construction General Permit
CH_4	Methane
CHE	Cargo handling equipment
CO	Carbon monoxide
CO_2	Carbon Dioxide
CO_3eq	Carbon Dioxide-Equivalent
CGS	California Geologic Survey
CNEL	Community Noise Equivalent Level
CPUC	California Public Utilities Commission
CSC	Community Steering Committee
CTC	California Transportation Commission
CTP	Countywide Transportation Plan
CWA	Clean Water Act
dBA	Decibel
DECS	Diesel emission control strategy
DPM	Diesel particulate matter
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EAP	Emergency Action Plans
EJ	Environmental Justice
EJAG	Environmental Justice Advisory Group
ENSO	El Niño-Southern Oscillation
EWP	Emergency Watershed Protection
FBMSM	Facility-Based Mobile Source Measure

FEMA	Federal Emergency Management Agency
FHA	Federal Housing Administration
FHSZ	Fire Hazard Severity Zones
FIRM	Federal Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FY	Fiscal year
GDP	Gross Domestic Product
GHG	Greenhouse gas
GSAs	Groundwater Sustainability Agencies
GSE	Ground support equipment
GVWR	Gross vehicle weight rating
Gwh	Gigawatt-hours
GWP	Global Warming Potential
HCP	Habitat Conservation Plan
HFC	Hydrofluorocarbons
IEPR	Integrated Energy Policy Report
IOUs	Investor owned utilities
IS	Initial Study
ISR	Indirect Source Rule
ISTEA	Intermodal Surface Transportation Efficiency Act
IWMP	Integrated Waste Management Plan
LADWP	Los Angeles Department of Water and Power
LA Metro	Los Angeles County Metropolitan Transportation Authority
LCFS	Low carbon fuel standard
LESA	Land evaluation and site assessment
LEV	Low-Emission Vehicle
LID	Low impact development
Li-ion	Lithium ion
LNG	Liquified Natural Gas
LPG	Liquified Petroleum Gas

LRA	Local responsibility areas
LRTP	Long Range Transportation Plan
MATES	Multiple Air Toxics Exposure Study
MDAB	Mojave Desert Air Basin
MEA	Membrane electrode assembly
MPAH	Master Plan of Arterial Highways
MPO	Metropolitan planning organization
MOB	Mobile Source Control Measures
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer Systems
Mwh	Megawatt-hours
MY	Model year
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NHTSA	National Highway Traffic Safety Administration
NiCad	Nickel cadmium
NiMH	Nickel metal hydride
NPDES	National Pollution Discharge Elimination System
NO_2	Nitrogen dioxide
NOP	Notice of Preparation
NOx	Oxides of nitrogen
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
NZE	Near-zero emissions
O_3	Ozone
OCTA	Orange County Transportation Authority
ODS	Ozone Depleting Substances
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration

PALs	Plantwide applicability limitations
PDO	Pacific Decadal Oscillation
PEM	Polymer electrolyte membrane
PHEV	Plug-in hybrid electric vehicles
PM	Particulate matter
PM2.5	Particulate matter with an aerodynamic diameter of 2.5 microns or less
PM10	Particulate matter with an aerodynamic diameter of 10 microns or less
PPV	peak particle velocity
PR	Proposed Rule
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RCTC	Riverside County Transportation Commission
RELs	Reference Exposure Levels
RFS	Renewable Fuel Standard
RPS	Renewables Portfolio Standard
RTAC	Regional Targets Advisory Committee
RTP/SCS	Regional Transportation Plan/ Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SB	Senate Bill
SBCTA	San Bernardino County Transportation Authority
SCAB	South Coast Air Basin
SCAG	Southern California Association of Government's
SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SIP	State Implementation Plan
SGMA	Sustainable Groundwater Management Act
SMJUs	Small and Multi-Jurisdictional Utilities
SQFT	Square feet

SOON	Surplus Off-Road Opt-In for NOx
South Coast AQMD	South Coast Air Quality Management District
SOx	Oxides of sulfur
SRA	State responsibility area
SRTP	Short Range Transit Plan
SSAB	Salton Sea Air Basin
SSLA	Small Sealed Lead Acid
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic air contaminant
TEA-21	Transportation Equity Act for the 21st Century
TMDL	Total maximum daily load
TRU	Transport refrigeration unit
USACE	United States Army Corps of Engineers
U.S. EPA	United States Environmental Protection Agency
U.S. FS	United States Forest Service
UST	Underground storage tank
VdB	Vibration decibels
VMT	Vehicle miles traveled
VOC	Volatile organic compounds
WAIRE	Warehouse Actions and Investments to Reduce Emissions
WATTs	Weighted annual truck trips
WFAQRP	Wildland Fire Air Quality Response Program
WPCO	Warehouse Points Compliance Obligation
WQMP	Water Quality Management Plan
ZE	Zero emissions

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EXECUTIVE SUMMARY

This EA consists of the following chapters: Chapter 1 – Background; Chapter 2 – Proposed Project; Chapter 3 – Existing Setting, Chapter 4 – Environmental Impact Analysis and Mitigation Measures, Chapter 5 – Alternatives, Chapter 6 – Other CEQA Considerations, and various appendices. The following subsections briefly summarize the contents of each chapter.

SUMMARY OF CHAPTER 1 - BACKGROUND

Chapter 1 includes an introduction of the proposed project and a discussion of the legislative authority that allows the South Coast AQMD to amend and adopt air pollution control rules, identifies general CEQA requirements, and the intended uses of this CEQA document.

SUMMARY OF CHAPTER 2 – PROPOSED PROJECT

The proposed project (also referred to as the WAIRE Program) consists of PR 2305 and the associated mitigation program, and PR 316. PR 316 is a fee rule to allow South Coast AQMD to recover administrative costs associated with implementation of PR 2305. Although PR 316 does not result in environmental changes or impacts and would qualify for a CEQA exemption on its own, the proposed project includes PR 316 for completeness. A copy of PR 2305 and PR 316 can be found in Appendix A of this EA.

Chapter 2 includes the objectives of the proposed project, a description of the various components of the WAIRE Program, the types of facilities subject to the proposed project, and the various compliance options for warehouses subject to the WAIRE Program.

SUMMARY OF CHAPTER 3 – EXISTING SETTING

Chapter 3 includes a description of the environmental topic areas that are potentially adversely affected by the proposed project. The analysis of the proposed project in the IS indicated that additional potentially significant adverse air quality and greenhouse gas emissions, energy, and transportation impacts could occur. In addition, comments on the Initial Study requested that this EA discuss potential impacts from increased use and disposal of batteries and hydrogen fuel cells, and potential indirect impacts from construction of new manufacturing facilities, recycling facilities, and grid improvements. In response, the EA also covers the environmental topics of hazardous materials and solid and hazardous waste, and incorporates by reference the existing setting for other impact areas from the CARB Advanced Clean Truck Regulation Final Environmental Analysis. Each of these impact areas is discussed briefly below.

Air Quality and Greenhouse Gas Emissions

Air quality within the South Coast AQMD's jurisdiction has shown substantial improvement over the last two decades. Nevertheless, some federal and state air quality standards are still exceeded frequently and by a wide margin. Chapter 3 provides a brief description of the existing air quality setting for each criteria pollutant, as well as the human health effects resulting from exposure to each criteria pollutant. In addition to developing and implementing plans to meet federal and state air quality standards, the South Coast AQMD also works towards controlling emissions of air contaminants and preventing endangerment to public health. As such South Coast AQMD regulates other pollutants such as toxic air contaminants. Although greenhouse gas emissions are

regulated by the federal and state governments, South Coast AQMD has adopted a policy to consider greenhouse gas impacts in its rulemaking and revisions to the Air Quality Management Plan. Chapter 3 provides a brief description of the existing air quality setting for each criteria pollutant, as well as the human health effects resulting from exposure to each criteria pollutant. A discussion of air toxics and greenhouse gases, including relevant laws, regulations, and plans, is also provided in Chapter 3.

Energy

Consumption of petroleum-based fuels plays a major factor in the amount of criteria pollutants and greenhouse gas emissions in the South Coast Air Basin. Alternative fuels and other energy sources play an important role in the strategies to reach attainment. Energy use and consumption is regulated through various means by federal and state agencies. Several federal and state laws have been enacted to regulate fuel economy standards, mandate environmentally sound transportation planning, increase the use of renewable energy resources and alternative fuels, provide the nation with greater energy independence and security, and adequately plan for California's future energy needs. Relevant energy laws and regulations are summarized in Chapter 3.

Hazardous Materials and Solid and Hazardous Wastes

While conventional vehicles use lead acid batteries, zero emission vehicles most commonly use lithium-ion batteries and to a lesser extent nickel metal hydride and nickel cadmium batteries. Zero emission vehicles may also use fuel cells, the most common for hydrogen fueled vehicles being the polymer electrolyte membrane. When vehicle batteries and fuel cells are spent, they need to be disposed of or recycled. There is one facility within the South Coast AQMD jurisdiction capable of recycling conventional lead acid batteries while there are a few companies located throughout North America capable of recycling the other battery types. The various federal and state regulations and plans that govern the disposal of spent batteries and hydrogen fuel cells are summarized in Chapter 3.

Transportation

Regional transportation planning within the South Coast Air Basin is governed by the Southern California Association of Governments (SCAG). SCAG integrates transportation planning activities in the region through their Regional Transportation Plan/Sustainable Communities Strategy, which envisions transportation investments and integrates land use and transportation strategies to assist in achieving the federal ambient air quality standards, and state emission and greenhouse gas reduction targets. Additionally, several federal and state laws and regional and local plans have been enacted to regulate transportation planning, reduction of vehicle miles travelled, and compliance with regional transportation-related air quality standards. Chapter 3 provides a brief overview of the existing and relevant transportation laws, regulations, and plans.

Other Impact Areas

The existing setting for other impact areas, including aesthetics, agriculture and forestry, biological resources, cultural resources, geology and soils, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, and utilities and service systems are incorporated by reference from the CARB Advanced Clean Truck Regulation Final Environmental Analysis. The potential future construction of new manufacturing and recycling facilities, and improvement to the electrical grid are indirect impacts of the proposed

project, and because it would be speculative to analyze these impacts at this time, they are not evaluated at the same level of detail as the direct impacts.

SUMMARY OF CHAPTER 4 – ENVIRONMENTAL IMPACT ANALYSIS AND MITIGATION MEASURES

CEQA Guidelines[1] Section 15126(a) requires a CEQA document to identify and focus on the "significant environmental effects of the proposed project." Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. In addition, CEQA Guidelines Section 15126(b) requires a CEQA document to identify the significant environmental effects that cannot be avoided if the proposed project is implemented. CEQA Guidelines Section 15126(c) also requires a CEQA document to consider and discuss the significant irreversible environmental changes that would be involved if the proposed project is implemented. Further, CEQA Guidelines Section 15126(e) requires a CEQA document to consider and discuss mitigation measures proposed to minimize the significant effects. Finally, CEQA Guidelines Section 15130 requires a CEQA document to discuss whether the proposed project has cumulative impacts. Chapter 4 considers and discusses each of these requirements. A consideration and discussion of alternatives to the proposed project as required by CEQA Guidelines Section 15130 is provided in Chapter 5 of the EA; a summary of the alternatives analysis is provided in the following section.

Potential Environmental Impacts Found To Be Significant

Air quality and greenhouse gas emissions, energy, hazardous materials and solid and hazardous waste and transportation have been identified in this EA as having potentially significant adverse direct and indirect impacts if the proposed project is implemented. In addition, indirect impacts associated with the proposed project, including the construction of new manufacturing and recycling facilities and improvements to the electrical grid, are identified in this EA as having potentially significant adverse environmental effects in the following topic areas: aesthetics, agriculture and forestry, biological resources, cultural resources, geology and soils, hydrology and water quality, mineral resources (during operations), noise, and utilities and service systems.

Potential Environmental Impacts Found Not To Be Significant

This EA is a comprehensive environmental document that analyzes potential environmental impacts from implementing the proposed project. The EA includes an examination of the implementation of best management practices (in the form of WAIRE Menu actions or a Custom WAIRE Plan), and/or mitigation fees at existing or new warehouses subject to the WAIRE Program requirements throughout the entire South Coast AQMD jurisdiction. The Initial Study analyzed the proposed project's impact in approximately 17 environmental topic areas and concluded that the proposed project would have potentially significant adverse direct and indirect impacts to three topic areas: air quality and greenhouse gas emissions, energy, and transportation. In response to the public comments received on the Initial Study, this EA includes one additional topic area: direct and indirect impacts to hazardous materials and solid and hazardous waste related to disposal of batteries and hydrogen fuel cells and accidental release of liquified natural gas during transportation. In addition, indirect impacts associated with the proposed project, including the construction of new manufacturing and recycling facilities and improvements to the electrical grid,

[1] The CEQA Guidelines, Cal. Code Regs., tit. 14 § 15000 et seq., are referred to herein as "Guidelines."

are identified in this EA as having potentially significant adverse environmental effects in the following topic areas: aesthetics, agriculture and forestry, biological resources, cultural resources, geology and soils, hydrology and water quality, mineral resources (during operations), noise, and utilities and service systems (during operations). As such, only these topic areas have been evaluated in this EA and no other environmental topic areas have been evaluated. Thus, the proposed project would have either no significant or less than significant direct and/or indirect adverse effects on the following environmental topic areas:

- air quality and greenhouse gas emissions (long-term air quality impacts and consistency of the proposed project with GHG reduction plans)
- energy (energy impacts during construction)
- hazardous materials and solid and hazardous waste (impacts from routine transport, use or disposal of batteries)
- land use and planning
- mineral resources (during construction)
- population and housing
- utilities and service systems (during construction)
- recreation
- transportation (impacts from construction and employee commute trips)
- wildfire

SUMMARY OF CHAPTER 5 – ALTERNATIVES

CEQA Guidelines Section 15126(e) requires a CEQA document to consider and discuss alternatives to the proposed project. Five alternatives to the proposed project are summarized in Table 5-1: 1) Alternative A – No Project; 2) Alternative B – Decreased Emission Reductions; 3) Alternative C – Increased Emission Reductions; 4) Alternative D – All-Natural Gas Options Only; and Alternative E – All Electric Options Only. Pursuant to the requirements in CEQA Guidelines Section 15126.6(b) to mitigate or avoid the significant effects that a project may have on the environment, a comparison of the project's potentially adverse impacts to each of the project alternatives is provided in Chapter 5. When comparing the environmental adverse impacts and evaluating the effectiveness of achieving the project objectives and providing long-term, permanent beneficial effects of the project alternatives, particularly Alternative C which would be considered as the lowest toxic alternative and environmentally superior alternative to the proposed project, the proposed project balances achieving the project objectives and the potential adverse impacts.

SUMMARY OF CHAPTER 6 – OTHER CEQA CONSIDERATIONS

CEQA documents are also required to consider and discuss the potential for growth-inducing impacts (CEQA Guidelines Section 15126(d)) and to explain and make findings about the project's relationship between short-term and long-term environmental goals (CEQA Guidelines Section 15065(a)(2)). Additional analysis confirms that the proposed project could result in significant irreversible environmental changes and the irretrievable commitment of resources. The proposed project would expedite the demand for near zero emission (NZE) and zero emission (ZE) trucks,

which may result in an increased production of batteries and fuel cells. The demand for lithium and other mineral sources used in battery production could increase, resulting in a need for increased mineral extraction through mining activities. The proposed project was found to not foster economic or population growth or the construction of additional housing. Further, implementation of the proposed project is not expected to achieve short-term goals to the disadvantage of long-term environmental goals.

SUMMARY OF APPENDICES

- Appendix A1 – Proposed Rule 2305
- Appendix A2 – Proposed Rule 316
- Appendix B – Notice of Preparation / Initiation Study
- Appendix C – Response to Comments on the NOP/IS
- Appendix D – CalEEMod® Files and Assumptions

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CHAPTER 1 BACKGROUND

1.1 INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (South Coast AQMD) in 1977[1] as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (SCAB) and portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). In 1977, amendments to the federal Clean Air Act (CAA) included requirements for submitting State Implementation Plans (SIPs) for nonattainment areas that fail to meet all federal ambient air quality standards (CAA Section 172), and similar requirements exist in state law (Health and Safety Code Section 40462). The federal CAA was amended in 1990 to specify attainment dates and SIP requirements for ozone, carbon monoxide (CO), nitrogen dioxide (NO2), and particulate matter (PM) with an aerodynamic diameter of less than 10 microns (PM10). The U.S. EPA is required to periodically update the national ambient air quality standards (NAAQS). In 1997, the U.S. EPA established the first federal standard for ozone averaged over 8 hours, at 0.08 ppm. The federal standard has since been lowered twice, in 2008 to 0.075 ppm and in 2015 to the current 0.070 ppm, based on additional evaluations of the health effects from ozone exposure. In 1997, the United States Environmental Protection Agency (U.S. EPA) also promulgated ambient air quality standards for PM with an aerodynamic diameter less than 2.5 microns (PM2.5). In addition, the California Clean Air Act (CCAA), adopted in 1988, requires the South Coast AQMD to achieve and maintain state ambient air quality standards for ozone, CO, sulfur dioxide (SO2), and NO2 by the earliest practicable date[2]. The CCAA also includes a standard for fine particulate matter, or PM2.5. Notably, for ozone, the current 8-Hour CAAQS and the 2015 8-hour NAAQS are at an equivalent level and for PM2.5, the current annual CAAQS and the 2012 annual NAAQS are also at an equivalent level[3]. As a result, the South Coast AQMD relies on the same measures to meet both federal and state ozone and PM2.5 standards. The CCAA also requires a three-year plan review, and, if necessary, an update to the SIP. The CCAA requires air districts to achieve and maintain state standards by the earliest practicable date and for extreme non-attainment areas, to include all feasible measures pursuant to Health and Safety Code Sections 40913, 40914, and 40920.5. While not defined in this part of the Health and Safety Code, "feasible" is defined in the California Environmental Quality Act (CEQA) Guidelines[4] Section 15364, as a measure "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

1.1.1 Air Quality Management Plan

By statute, the South Coast AQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the areas

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., Ch. 324 (codified at Health and Safety Code Section 40400-40540).

[2] Health and Safety Code Section 40910.

[3] There are minor differences in the averaging time for federal and state standards. https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf

[4] The CEQA Guidelines are codified at Title 14 California Code of Regulations Section 15000 *et seq.*

under the jurisdiction of the South Coast AQMD[5]. Furthermore, the South Coast AQMD must adopt rules and regulations that carry out the AQMP[6]. The AQMP is a regional blueprint for how the South Coast AQMD will achieve air quality standards and healthful air and the 2016 AQMP[7] contains multiple goals promoting reductions of criteria air pollutants, greenhouse gases (GHGs), and toxic air contaminants (TACs). In particular, the 2016 AQMP states that both oxides of nitrogen (NOx) and volatile organic compound (VOC) emissions need to be addressed, with the emphasis that NOx emission reductions are more effective to reduce the formation of ozone and PM2.5. Ozone is a criteria pollutant shown to adversely affect human health and is formed when VOCs react with NOx in the atmosphere. NOx is a precursor to the formation of ozone and NOx emission reductions are necessary to attain the ozone standard. NOx emission reductions also contribute to attainment of PM2.5 standards. The 2016 AQMP determined that the "NOx strategy will assist in meeting the annual PM2.5 standard as "expeditiously as practicable" earlier than the attainment year of 2025[8].

To meet air pollution reduction goals, the 2016 AQMP contains a variety of control measures, including Facility-Based Mobile Source Measures (FBMSMs), also known as indirect source measures or rules. An indirect source rule (ISR) is distinct from a traditional air pollution control regulation that focuses on stationary equipment in that an ISR focuses on reducing emissions from the vehicles and other sources of emissions associated with a facility rather than just emissions from a facility itself. The primary goal of the FBMSMs is to reduce NOx emissions as one of many local, state, and federal strategies to meet ozone and PM2.5 NAAQS. NOx is locally and regionally important due to its involvement in the photochemical formation of ozone. Mobile sources associated with goods movement make up about 52% of all NOx emissions in the SCAB.

The FBMSMs described in the 2016 AQMP are concentrated on the four sectors of the goods movement industry: commercial marine ports, rail yards, warehouse distribution centers, and commercial airports. Of these FBMSMs, Control Measure MOB-03 – Emission Reductions at Warehouse Distribution Centers, committed to exploring how to achieve emission reductions from the warehouse sector.

The South Coast AQMD Governing Board approved the 2016 AQMP in March of 2017 and forwarded that approval to CARB. Later that month, CARB approved the 2016 AQMP into the SIP and the 2016 AQMP was ultimately approved by U.S. EPA on October 1, 2019.

A Final Program Environmental Impact Report (EIR) was prepared for the 2016 AQMP and certified in March of 2017. The March 2017 Final Program EIR[9] analyzed the environmental impacts from implementation of all the control measures and strategies identified in the 2016 AQMP, including Control Measure MOB-03 – Emission Reductions at Warehouse Distribution Centers.

[5] Health and Safety Code Section 40460(a).

[6] Health and Safety Code Section 40440(a).

[7] South Coast Air Quality Management District. 2017, March. Final 2016 Air Quality Management Plan. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

[8] South Coast Air Quality Management District. 2017, March. Final 2016 Air Quality Management Plan. Page 4-52. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

[9] South Coast Air Quality Management District. 2017, March. Final Program EIR for the 2016 AQMP. http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf

Initially, the South Coast AQMD Governing Board authorized a one-year public process to identify if MOB-03 could be achieved through voluntary or regulatory measures, and then ultimately determined in May of 2018 that staff should pursue a regulatory approach.

Consistent with this direction, South Coast AQMD staff has developed Proposed Rule (PR) 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and the mitigation fee program, to implement Control Measure MOB-03, and PR 316 – Fees for Rule 2305, which establishes fees to recover administrative costs associated with compliance activities of PR 2305. The proposed project (also referred to as the WAIRE Program) consists of both PR 2305 and PR 316. PR 2305 is an indirect source rule that South Coast AQMD can adopt under the authority of Health and Safety Code Sections 39002, 39650 through 39669, 40000, 40001, 40440, 40441, 40522.5, 40701, 40702, 40716, 40717, 40725 through 40728, 40910, 40920.5, 41508, 41511, and 41700. The emission reductions from PR 2305 will contribute to meeting commitments for reducing NOx and PM2.5 in the SIP.

Aside from regional air quality benefits, PR 2305 will also have localized air quality benefits. PR 2305 will reduce diesel particulate matter (DPM) from diesel fueled vehicles such as on-road trucks, off-road yard trucks, and transportation refrigeration units. DPM, which is a component of PM2.5, is a toxic air contaminant and a designated carcinogen by the state of California. DPM emission reductions from PR 2305 will contribute to reduced exposure from emissions associated with warehouse activities for communities located in the vicinity of a warehouse.

If adopted, PR 2305 would be applicable to any existing or new warehouse located in South Coast AQMD's jurisdiction with an indoor warehouse floor space equal to or greater than 100,000 square feet within a single building that may be used for warehousing activities by one or more warehouse operators. At the time of this analysis, approximately 3,320 facilities located throughout South Coast AQMD's jurisdiction would be subject to PR 2305. An estimated 418 of these facilities are expected to only be subject to reporting requirements, and the remaining 2,902 warehouses would be required to comply with additional air quality improvement measures. Warehouse owners or operators of these 2,902 warehouses would be subject to an annual WAIRE Points Compliance Obligation (WPCO). WAIRE Points can be earned by selecting from the following implementation measures in the WAIRE Menu: 1) acquiring and/or using near-zero emissions (NZE) and zero-emission (ZE) trucks; 2) acquiring and/or using ZE yard trucks; 3) installing and/or using ZE charging/fueling infrastructure (e.g., electric charger, hydrogen fuel station) for cars, trucks, and/or transport refrigeration units (TRUs); 4) installing and/or using onsite solar panels; and 5) installing MERV 16 or greater filters or filter systems in residences, schools, daycares, hospitals, or community centers. In addition, warehouse operators may apply to earn WAIRE Points through a Custom WAIRE Plan specific to their operations that satisfies prescribed performance metrics. Custom WAIRE Plans could include measures like installing offsite fueling/charging infrastructure or implementing new onsite practices to reduce air quality impacts from electricity consumption (such as installing and operating battery storage, or energy management systems to shift when electricity is used).

WAIRE Points may be earned only for "surplus" actions that go beyond existing federal and state regulations that warehouse owners or operators earning WAIRE Points must comply with. In lieu of satisfying the WPCO via implementation measures, warehouse owners or operators may choose the option to pay a mitigation fee to the South Coast AQMD that would be used in a mitigation program to achieve the emissions reductions. Similar to the measures used to earn WAIRE Points, the mitigation program would implement measures such as subsidizing the purchase of NZE and

ZE trucks and/or the installation of charging and fueling infrastructure for ZE trucks. The environmental impacts associated with the mitigation program are similar to implementation of measures to earn WAIRE Points from the WAIRE Menu. The mitigation program would prioritize use of the mitigation fees in areas near the warehouses using this compliance option.

In addition, South Coast AQMD staff has developed PR 316 – Fees for Rule 2305 to establish fees to recover South Coast AQMD administrative costs associated with ensuring compliance, such as submittal and review of various notifications and reports, Custom WAIRE Plan application evaluation, implementing an incentive program using fees from warehouse operators that choose to pay a mitigation fee, as well as compliance activities such as conducting desktop audits, onsite inspections, and reviewing records. Although PR 316 is statutorily exempt from CEQA, the analysis in this EA considers PR 2305 and PR 316 a "project" as defined by CEQA. Of the requirements in the proposed project, only the components that pertain to PR 2305 could involve physical or operational modifications to warehouses that are subject to WAIRE Program, and these physical or operational modifications could potentially have an effect on the physical environment.

Implementation of the proposed project is expected to result in NOx and PM, including DPM, emission reductions and reduced associated public health impacts from warehouse activities which will vary depending upon the implementation measures employed. Estimated emission benefits from the proposed project, including any that are creditable towards the SIP, are included in this EA.

1.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) requires that all potentially significant, adverse environmental impacts of proposed projects be evaluated and that methods to reduce or avoid identified significant adverse environmental impacts of these projects be implemented, if feasible. The purpose of the CEQA process is to inform the South Coast AQMD Governing Board, public agencies, and interested parties of potential adverse environmental impacts that could result from implementing the proposed project and to identify feasible mitigation measures or alternatives, when an impact is significant.

Public Resources Code Section 21080.5 allows public agencies with regulatory programs to prepare a plan or other written documents in lieu of a negative declaration or environmental impact report once the secretary of the resources agency has certified the regulatory program. The South Coast AQMD's regulatory program was certified by the secretary of resources agency on March 1, 1989 (CEQA Guidelines Section 15251(l)). In addition, the South Coast AQMD adopted Rule 110 – Rule Adoption Procedures to Assure Protection and Enhancement of the Environment, which implements the South Coast AQMD's certified regulatory program. Under the certified regulatory program, the South Coast AQMD typically prepares an Environmental Assessment (EA) to evaluate the environmental impacts for rule projects proposed for adoption or amendment.

The proposed adoption of PR 2305 and PR 316 is a discretionary action subject to South Coast AQMD Governing Board consideration, which has the potential for resulting in direct or indirect changes to the environment, and, therefore, is considered a "project" as defined by CEQA (CEQA Guidelines Section 15378). While PR 316 would individually qualify for a statutory exemption under CEQA Guidelines Section 15273 – Rates, Tolls, Fares, and Charges, it is being included as part of the project description for clarity and to give a complete description of the proposed project.

The lead agency is the "public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment" (Public Resources Code Section 21067). Since the South Coast AQMD Governing Board has the primary responsibility for approving and carrying out the entire project as a whole, the South Coast AQMD is the most appropriate public agency to act as lead agency for the proposed project (CEQA Guidelines Section 15051(b)).

Implementation of the WAIRE Program is expected to result in NOx and PM, including DPM, emission reductions and will assist in meeting state and federal air quality standards for ozone and PM2.5. By reducing emissions of DPM, the WAIRE Program is also expected to reduce emissions of toxic air contaminants. While reducing NOx and PM emissions will result in an environmental benefit, activities that warehouse owners or operators may undertake to comply with the WAIRE Program may also cause potentially significant direct and indirect adverse environmental impacts, including to air quality and greenhouse gas emissions, energy, hazardous materials and solid and hazardous waste, and transportation (traffic). In addition, because the WAIRE Program would incentivize the purchase and use of zero emission vehicles, some comments received on the Initial Study noted that the proposed project could lead to the construction of new manufacturing and battery recycling facilities, and improvements to the electrical grid. While it is too speculative to analyze the particular impacts of such development projects, the California Air Resources Board (CARB) provided a general analysis of these potential development projects and the environmental impacts in its Final Environmental Analysis (EA) for the Advanced Clean Trucks (ACT) Regulation. The ACT Regulation is part of the mobile source emission reduction activities at the state level to accelerate a large-scale transition of zero emission vehicles by establishing a new requirement that manufacturers selling new medium- and heavy-duty trucks in California would be required to sell zero-emission trucks at an increasing percentage by 2035. In the Final EA, CARB found that actions taken in response to the Regulation could result in potential indirect physical changes to the environment from potential increases in development projects related to manufacturing, recycling, mining, and grid improvements. This EA acknowledges the potentially significant impacts of such development projects by incorporating CARB's analysis of these indirect impacts from its Final EA for the ACT Regulation[10]. As discussed below, this EA also tiers off of the 2017 Final Program EIR for the 2016 AQMP, which also analyzed similar potential indirect impacts of a warehouse indirect source rule.

PR 316 is an administrative rule that is not expected to require any physical modifications that would cause any direct or indirect adverse environmental impacts.

1.2.1 CEQA Process

1.2.1.1 Notice of Preparation and Initial Study

Notice of Preparation of a Draft Environmental Assessment, Initial Study, and Opportunity for Public Comment for the Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investment to Reduce Emissions (WAIRE) Program; and Proposed Rule 316 – Fees for Regulation XXIII November 2020 (SCH No. 2020110225): In accordance with CEQA, the South Coast AQMD, as Lead Agency, prepared a Notice of Preparation (NOP) of the Draft EA and an Initial Study (IS) to analyze the project level environmental impacts from

[10] California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Advanced Clean Trucks Regulation. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf.

the proposed project pursuant to its certified regulatory program (Public Resources Code Section 21080.5, CEQA Guidelines Section 15251(l), and South Coast AQMD Rule 110). The NOP/IS included a project description and analysis of potential adverse environmental impacts that could be generated from the proposed project. The NOP/IS served two purposes: 1) to solicit information on the scope of the environmental analysis for the proposed project, and 2) to notify public agencies and the public that the South Coast AQMD will prepare a Draft EA to further assess potential adverse environmental impacts that may result from implementing the proposed project. The EA is a substitute CEQA document (CEQA Guidelines Section 15252), prepared in lieu of an Environmental Impact Report for a project with potentially significant adverse impacts, pursuant to the South Coast AQMD's Certified Regulatory Program. The EA is also a public disclosure document intended to: 1) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental impacts of the proposed project; and 2) be used as a tool by decision makers to facilitate decision making on the proposed project. The Initial Study concluded that the proposed project could have potentially significant adverse impacts to the environmental topic areas of air quality and greenhouse gas emissions, energy, and transportation (traffic) and those are analyzed further in this EA. The NOP/IS was released for a 30-day public review and comment period from November 13, 2020 to December 15, 2020. During the public comment period, South Coast AQMD received comments related to the environmental impacts associated with the increased disposal of batteries and hydrogen fuel cells, and the potential indirect impacts associated with incentivizing the transition to NZE and ZE vehicles (e.g., the construction of new manufacturing facilities, increased lithium mining). Although the Initial Study concluded that the proposed project is expected to result in less than significant impacts on hazardous materials and solid and hazardous waste, the EA analyzes the environmental issues associated with increased disposal of batteries and hydrogen fuel cells and the potential impacts on the battery recycling infrastructure, and the accidental release of liquified natural gas during transport. Additionally, the Initial Study also concluded that the proposed project is expected to result in less than significant impacts on aesthetics, agricultural and forestry, biological resources, cultural and tribal resources, geology and soils, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, and utilities and service systems; however, this EA analyzes the indirect environmental impacts to these areas to the extent that they may be impacted by potential future construction of new manufacturing and recycling facilities, and improvement to the electrical grid. All CEQA comments received during the public comment period and the responses, if necessary, are included in Appendix C.

1.2.1.2 CEQA Scoping Meeting

A virtual CEQA scoping meeting was held on Wednesday, December 2, 2020 at 1:30PM to inform the public that the proposed project may have statewide, regional, or areawide significance and to solicit public comment in regard to the type and extent of the environmental analyses to be undertaken in accordance with Public Resources Code Section 21083.9(a)(2) as well as to solicit feedback on the NOP/IS. Approximately 80 people participated in the CEQA scoping meeting. South Coast AQMD staff presented an overview of the proposed rules and the environmental analysis in the IS. Stakeholders provided comments on limited WAIRE Point transfers, WAIRE Point composition, inclusion of pre-existing WAIRE Menu actions, implementation schedule, and the environmental impacts from diesel truck replacements or transfers outside of the South Coast AQMD's jurisdiction. All CEQA comments received during the CEQA Scoping Meeting and the responses, if necessary, are included in Appendix C.

1.2.1.3 Environmental Assessment

The Draft EA is being released and circulated for a 45-day public review and comment period from January 26, 2021 to March 23, 2021. Written comments received during the public comment period on the scope of the environmental analysis presented in the Draft EA will be addressed in the Final EA.

Prior to making a decision on the adoption of the proposed project, the South Coast AQMD Governing Board must review and certify the Final EA, including responses to comments received on the Draft EA, as providing adequate information on the potential adverse environmental impacts that may occur as a result of adopting the proposed project.

1.2.2 Other CEQA Documents

Final Program Environmental Impact Report (EIR) for the 2016 Air Quality Management Plan (AQMP); March 2017 (SCH No. 2016071006): The 2016 AQMP identified control measures and strategies to bring the region into attainment with the revoked 1997 8-hour NAAQS (standard) (80 ppb) for ozone by 2024; the 2008 8-hour ozone standard (75 ppb) by 2032; the 2012 annual PM2.5 standard (12 µg/m3) by 2025; the 2006 24-hour PM2.5 standard (35 µg/m3) by 2019; and the revoked 1979 1-hour ozone standard (120 ppb) by 2023. The 2016 AQMP consists of three components: 1) the South Coast AQMD's Stationary, Area, and Mobile Source Control Measures; 2) State and Federal Control Measures provided by the California Air Resources Board; and 3) Regional Transportation Strategy and Control Measures provided by the Southern California Association of Governments. The 2016 AQMP includes emission inventories and control measures for stationary, area and mobile sources, including the facility-based mobile source measure MOB-03 – Emission Reductions at Warehouse Distribution Centers, the most current air quality setting, updated growth projections, new modeling techniques, demonstrations of compliance with state and federal Clean Air Act requirements, and an implementation schedule for adoption of the proposed control strategy. A Final Program EIR was prepared for the project which analyzed each of the proposed control measures, including MOB-03, and identified potential adverse impacts that may result from implementing the project for the following environmental topic areas: 1) aesthetics; 2) air quality and GHGs; 3) energy; 4) hazards and hazardous materials; 5) hydrology and water quality; 6) noise; 7) solid and hazardous waste; and 8) transportation and traffic. The analysis concluded that significant and unavoidable adverse environmental impacts from the 2016 AQMP are expected to occur after implementing mitigation measures for the following environmental topic areas: 1) aesthetics from increased glare and from the construction and operation of catenary lines and use of bonnet technology for ships; 2) construction air quality and GHGs; 3) energy (due to increased electricity demand); 4) hazards and hazardous materials due to: (a) increased flammability of solvents; (b) storage, accidental release and transportation of ammonia; (c) storage and transportation of liquefied natural gas (LNG); and (d) proximity to schools; 5) hydrology (water demand); 6) construction noise and vibration; 7) solid construction waste and operational waste from vehicle and equipment scrapping; and 8) transportation and traffic during construction and during operation on roadways with catenary lines and at the harbors. Since significant adverse environmental impacts were identified, an alternatives analysis was required by CEQA and prepared. The March 2017 Final Program EIR concluded that the project would have significant and unavoidable adverse environmental impacts even after mitigation measures were identified and applied. As such, mitigation measures were made a condition of the approval of the project and a Mitigation Monitoring and Reporting Plan was

adopted. Findings were made and a Statement of Overriding Considerations was prepared and adopted. The South Coast AQMD Governing Board certified the Final Program EIR and approved the project on March 3, 2017. This document can be obtained by visiting the following website at: http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd projects/2016/2016aqmpfpeir.pdf.

The proposed project is consistent with, and implements, the 2016 AQMP, in particular MOB-03 – Emission Reductions at Warehouse Distribution Centers.

Final Environmental Analysis (EA) for the Advanced Clean Trucks (ACT) Regulation; June 2020 (SCH No. 2018052041): The ACT Regulation established a new requirement that manufacturers selling new medium- and heavy-duty trucks in California would be required to sell zero-emission trucks at an increasing percentage by 2035. Additionally, the ACT Regulation established reporting requirements for large employers and fleet owners. A Final EA was prepared for the project which programmatically analyzed a reasonably foreseeable compliance response scenario and identified potential adverse indirect impacts that may result from implementing the project for the following environmental topic areas: 1) aesthetics; 2) agriculture and forestry; 3) air quality; 4) biological resources; 5) cultural resources; 6) geology and soils; 7) hazards and hazardous materials; 8) hydrology and water quality; 9) mineral resources; 10) noise; 11) transportation/traffic; and 12) utilities and service systems. The analysis concluded that significant and unavoidable adverse indirect environmental impacts from the ACT Regulation are expected to occur from the potential increase in manufacturing, recycling, mining, and grid improvements after implementing mitigation measures for the following environmental topic areas: 1) aesthetics; 2) agriculture and forestry; 3) construction air quality; 4) biological resources; 5) cultural resources; 6) geology and soils; 7) hazards and hazardous materials; 8) hydrology and water quality; 9) mineral resources; 10) noise; 11) transportation/traffic; and 12) utilities and service systems. The Final EA concluded that the project would have significant and unavoidable adverse indirect environmental impacts even after mitigation measures were identified and applied[10].

1.3 INTENDED USES OF THIS DOCUMENT

In general, a CEQA document is an informational document that informs a public agency's decision-makers and the public generally of potentially significant adverse environmental effects of a project, identifies possible ways to avoid or minimize the significant effects, and describes reasonable alternatives to the project (CEQA Guidelines Section 15121). A public agency's decision-makers must consider the information in a CEQA document prior to making a decision on the project. Accordingly, this EA is intended to: a) provide the South Coast AQMD Governing Board and the public with information on the environmental effects of the proposed project; and b) be used as a tool by the South Coast AQMD Governing Board to facilitate decision-making on the proposed project.

Additionally, CEQA Guidelines Section 15124(d)(1) requires a public agency to identify the following specific types of intended uses of a CEQA document:

1. A list of the agencies that are expected to use the EA in their decision-making.
2. A list of permits and other approvals required to implement the project; and
3. A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies.

To the extent that local public agencies, such as cities, county planning commissions, et cetera, are responsible for making land use and planning decisions related to projects that must comply with the requirements of the proposed project, they could possibly rely on this EA during their decision-making process. Similarly, other public agencies approving projects subject to PR 2305 and PR 316 may choose to rely on this EA.

There are no South Coast AQMD permits required to implement the proposed project. Instead, regulated warehouse owners or operators will be required to submit reports and/or compliance plans. However, certain measures selected by warehouse owners or operators to comply with the proposed project, such as installing charging infrastructure, may require local government permits and approvals by other public agencies, such as public utilities. It is not possible to predict which measures will be selected by warehouses subject to the proposed project or what type of approvals may be required by those agencies. Therefore, it is speculative to list local permits and other actions and approvals that will be required to implement the proposed project.

In addition to the South Coast AQMD's Governing Board, which will consider the EA for the proposed project in their decision-making, the California Air Resources Board (CARB), a state agency, and the U.S. EPA, a federal agency, will be reviewing PR 2305 and PR 316 and all supporting documents as part of the process for considering the inclusion of PR 2305 into the SIP. Moreover, PR 2305 and PR 316 are not subject to any other related environmental review or consultation requirements.

1.3.1 Tiering and Incorporation by Reference

1.3.1.1 Tiering

This EA tiers off of the 2017 Final Program EIR for the 2016 AQMP[11] (SCH No. 2016071006) ("2016 AQMP Final Program EIR"), pursuant to Public Resources Code section 21094 and Guidelines section 15152 (g). The 2016 AQMP Final Program EIR analyzed a number of air pollution control measures to be implemented by South Coast AQMD, including Control Measure MOB-03 – Emission Reductions at Warehouse Distribution Centers, which required the assessment and identification of potential actions to reduce emissions associated with mobile sources operating in and out of warehouse distribution centers.

CEQA encourages tiering whenever feasible (Public Resources Code Section 21093). "Tiering" or 'tier' means the coverage of general matters and environmental effects in an environmental impact report prepared for a policy, plan, program or ordinance followed by narrower or site-specific environmental impact reports which incorporate by reference the discussion in any prior environmental impact report and which concentrate on the environmental effects which (a) are capable of being mitigated, or (b) were not analyzed as significant effects on the environment in the prior environmental impact report (Public Resources Code, Section 21094(a); Section 21068.5).

The 2016 AQMP Final Program EIR concluded that implementation of the AQMP, including Control Measure MOB-03, would have significant and unavoidable impacts in the following areas 1) aesthetics from increased glare from solar panels and from the construction and operation of

[11] South Coast Air Quality Management District. 2017, March. Final Program EIR for the 2016 AQMP. http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf

catenary lines and use of bonnet technology for ships; 2) construction air quality and GHGs; 3) energy (due to increased electricity demand); 4) hazards and hazardous materials due to: (a) increased flammability of solvents; (b) storage, accidental release and transportation of ammonia; (c) storage and transportation of liquefied natural gas (LNG); and (d) proximity to schools; 5) hydrology (water demand); 6) construction noise and vibration; 7) solid construction waste and operational waste from vehicle and equipment scrapping; and 8) transportation and traffic during construction and during operation on roadways with catenary lines and at the harbors. It also concluded that implementation of the AQMP would have significant and unavoidable cumulative impacts. The proposed project is consistent with the AQMP, as it implements Control Measure MOB-03.

In analyzing the potential impacts of Control Measure MOB-03 in particular, the 2016 AQMP Final Program generally noted that this measure could have impacts associated with incentivizing increased acquisition and use of zero-emission vehicles, including impacts associated with constructing infrastructure to provide support for these vehicles, increased use of electricity and alternative fuels, and increased vehicle scrapping. See, e.g., 2016 AQMP Final Program EIR at 4.1-17. Impacts associated with other measures in the AQMP included potential installation of solar panels and cool roof technology. See, e.g., 2016 AQMP Final Program EIR at 4.5-5 (discussing potential noise impacts from installation). The 2016 AQMP Final Program EIR did not specifically analyze potential impacts associated with the construction of new manufacturing plants or recycling facilities.

Pursuant to CEQA, as long as a program EIR has adequately addressed a potentially significant impact, the later EIR need not provide further analysis. See CEQA Guidelines § 15152(f); CEQA § 21093 ("tiering is appropriate when it helps a public agency . . . exclude duplicative analysis of environmental effects examined in previous environmental impact reports). An impact has been adequately addressed if it has been examined at a sufficient level of detail in the prior environmental impact report to enable the lead agency and public to consider whether those effects can be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the later project. See CEQA Guidelines § 15152(f); 2 *Practice Under CEQA*, § 10.10. The 2016 AQMP Final Program EIR adequately addressed the following potentially significant impacts, which, according to the 2016 AQMP Final Program EIR, could result from Control Measure MOB-03. This EA also incorporates the cited 2016 AQMP Final Program EIR analysis by reference. See CEQA Guidelines § 15150.

1. **Energy**: "The 2016 AQMP could result in a substantial increase in electricity use (greater than one percent of the existing electricity use in the Basin), and the increased electricity demand is considered significant." 2016 AQMP Final Program EIR 4.10-4.

The 2016 AQMP Final Program EIR stated that "the electricity consumption impacts [associated with increased penetration of ZE vehicles] are significant because the potential 2024 electricity usage increase would exceed baseline electricity consumption by 7.8 to 12.7 percent." Given that it is uncertain how much impact the proposed project will have with respect to increasing penetration of ZE vehicles, the 2016 AQMP Final Program EIR's analysis of this potential impact was adequate. Nonetheless, this EA provides additional analysis of this potential impact in the Energy discussion, below, to provide a conservative estimate of impacts under the proposed rule.

2. **Hazards**: "Hazard impacts associated with a tank rupture and the transportation of LNG were determined to be significant, and would remain significant after mitigation." 2016 AQMP Final Program EIR 4.10-4.

Because Control Measure MOB-03 would incentivize the acquisition and use of natural gas vehicles, thereby increasing the demand for LNG fuel, the 2016 AQMP Final Program EIR concluded that MOB-03 could contribute to this potentially significant impact. Given that it is uncertain how much impact the proposed project will have with respect to increasing use of natural gas vehicles, the 2016 AQMP Final Program EIR's analysis of this potential impact was adequate. The EA incorporates this analysis by reference in the Hazards discussion, below.

3. **Noise**: "Noise and vibration impacts would be temporary in nature and related solely to construction activities, but are considered significant, even after mitigation." 2016 AQMP Final Program EIR 4.10-4.

The 2016 AQMP Final Program EIR stated: "Potential noise impacts associated with the 2016 AQMP relate primarily to construction activities which could include the construction related to the: 1) installation of air pollution control equipment, (e.g., enclosures and filtration systems); 2) replacement of existing equipment; 3) installation of roadway infrastructure (wayside power and catenary lines or other similar technologies); 4) installation of battery charging or fueling infrastructure; and, 5) installation of solar panels, cool roof technology, and water heaters." Given that it is uncertain how much of this type of construction will result from implementing the proposed project, the 2016 AQMP Final Program EIR's analysis of this potential impact was adequate. The EA incorporates this analysis by reference in the Noise discussion, below.

4. **Solid and Hazardous Waste**: "The extent and timing of construction needed to implement the 2016 AQMP is not known at this time, but the potential to exceed landfill capacities from construction waste was found to be significant. Additionally, the high volume of vehicle and equipment to retire in a short timeframe and uncertainty of their outcome would result in potential significant solid and hazardous waste impacts." 2016 AQMP Final Program EIR 4.10-5.

Pursuant to the 2016 AQMP Final Program EIR, Control Measure MOB-03 could contribute to this significant impact by incentivizing the use of ZE vehicles (which would require construction of infrastructure) and retirement of older vehicles (which could produce scrapping waste). Given that it is uncertain how much of this type of construction and scrapping will result from implementing the proposed project, the 2016 AQMP Final Program EIR's analysis of this potential impact was adequate. The EA incorporates this analysis by reference in the Hazard and Hazardous Waste discussion, below.

5. **Aesthetics**: "During construction, the equipment staging and laydown areas would be in close proximity to the location of the control measures and could create a temporary, but significant aesthetic impact due to the degradation of the existing visual character of the site. The installation of catenary lines and use of bonnet technology on ocean going vessels at the ports may substantially degrade the existing visual character or quality of a site and its surroundings and this impact is considered significant." 2016 AQMP Final Program EIR 4.10-5.

"The installation of solar panels and use of cool roof technology would create a significant source of glare." 2016 AQMP Final Program EIR 4.10-5.

To the extent the proposed project could result in increased catenary lines, infrastructure construction projects, or installation of solar panels, this analysis of potential aesthetic impacts is sufficiently detailed. The EA incorporates this analysis by reference in the Aesthetic discussion, below.

1.3.1.2 Incorporation by Reference

CEQA also allows lead agencies to incorporate by reference environmental impact analysis prepared in prior EIRs (CEQA Guidelines Section 15150). Comments received during the public comment period requested that this EA consider the potential impacts of the construction of new manufacturing and battery recycling facilities, and improvements to the electrical grid, that could result if warehouse operators choose to comply with the WAIRE Program by purchasing or using zero emission vehicles. These potential indirect impacts of the rule were comprehensively analyzed by the California Air Resources Board in its Final Environmental Analysis for the ACT Regulation (SCH No. 2018052041)**Error! Bookmark not defined.**. As a result, this EA incorporates by reference the analysis in that document, as described in Chapters 3 and 4.

1.4 AREAS OF CONTROVERSY

CEQA Guidelines Section 15123(b)(2) requires a public agency to identify the areas of controversy in the CEQA document, including issues raised by agencies and the public. Over the course of developing the proposed project, the predominant concerns expressed by representatives of public agencies, industry, and environmental groups, either in public meetings or in written comments, regarding the proposed project are summarized in Table 1-1.

Table 1-1
Areas of Controversy

	Area of Controversy	Topics Raised by the Public	South Coast AQMD Staff Evaluation
1.	Inclusion of NZE instead of only ZE technology; availability of Class 8 ZE trucks	The proposed rule will allow the use of equipment that is not ZE, which will continue to cause adverse air quality impacts in communities.	• It would not be technologically feasible to require only ZE technology at this time. • ZE demonstration projects such as projects with Volvo and Daimler are being conducted and ongoing. • Potential range limitations due to battery and charging infrastructure are being considered. • Despite these limitations, trucks can be routed to accommodate range limitations. • NZE trucks result in at least 90 percent NOx emissions reductions. • NZE Class 8 trucks are commercially available today and are expected to be significantly cheaper than Class 8 ZE trucks until costs come down for ZE technologies and fuels.

Table 1-1
Areas of Controversy

	Area of Controversy	Topics Raised by the Public	South Coast AQMD Staff Evaluation
2.	Compliance Options (e.g., transferring of WAIRE Points or mitigation fee)	Compliance options could allow for the rule to be used as a credit program or allow for a "pay-to-pollute" structure. Additionally, localized impacts may not be adequately addressed when using mitigation fees. Community should be involved in decision of where to use funds.	• Compliance options provide flexibility. • Transfer of WAIRE Points are limited to points that are in excess of the WPCO; WAIRE Points transferred to a different warehouse will be discounted. • WAIRE Point transferring provides an incentive for operators of multiple warehouses to build ZE infrastructure at a larger scale early since overcompliance at one site can be used for another site. More and earlier actions to implement ZE and NZE technologies would occur with the transfer options than without. • Fees collected will create new source of funds to reduce pollution in the communities impacted by vehicles and other emissions sources associated with warehouses. • Use of mitigation fees will be prioritized in areas near the warehouses using this compliance option. • PR 2305 proposes to regulate an industry previously not regulated for their emissions. Even if every warehouse owner or operator paid the optional mitigation fees, that would not encourage increased emissions, but would allow for a new source of funds available to reduce emissions from warehouses.
3.	Effect on incentives	Use of incentives (e.g., Carl Moyer) may be discouraged since trucks purchased with incentive funding will not count towards WAIRE Points.	• Any limitations on the use of incentive funds with regulations like PR 2305 are tied to the funding programs themselves, not PR 2305. PR 2305 does not place limits on the use of incentive funds. • PR 2305 is designed to work together with voluntary incentive programs as much as possible. While most trucks purchased through incentive funding programs won't earn WAIRE Points, visits from those trucks are still able to earn WAIRE Points. • Non-state incentives such as Southern California Edison's Charge Ready Transport can be used and still earn WAIRE Points. • Incentive programs will lower the cost of compliance with PR 2305, and the design of PR 2305 is expected to ultimately increase interest in incentive programs rather than discourage interest.

Table 1-1
Areas of Controversy

	Area of Controversy	Topics Raised by the Public	South Coast AQMD Staff Evaluation
4.	Existing and future regulations	Existing and future state and federal regulations already regulate truck emissions and PR 2305 would not provide any additional emissions benefits.	• The proposed stringency of ISR is expected to result in early and additional implementation of actions beyond state requirements. Even if the PR 2305 did not result in additional emission reductions beyond state and federal regulations, it would still ensure that statewide or nationwide measures result in emissions benefits in South Coast AQMD, and in communities near warehouses. • Analysis takes into account potential interaction of PR 2305 and future state regulations by reducing or discounting PR 2305's emission reductions after considering CARB's recently adopted ACT Regulation, Heavy-Duty Engine and Vehicle Omnibus Low NOx Regulation, and Senate Bill 210 (2019) which requires CARB to develop a Heavy-Duty Inspection and Maintenance program. • Additional regulations have been proposed, such as CARB's Advanced Clean Fleets regulation and EPA's Cleaner Trucks Initiative, but those rules are in early stages of development and it is too speculative to determine exactly how they will affect emissions at PR 2305 warehouses. What is known about those regulatory efforts is that they are not expected to provide substantial emission reductions until the late 2020's at the earliest, whereas PR 2305 is designed to provide emission reductions as early as 2021. • CARB's Draft Mobile Source Strategy (2020) analyzed all existing and proposed CARB and EPA mobile source regulations and found that additional NOx reductions are still needed to meet federal air quality standards in South Coast AQMD in 2023 and 2031. PR 2305 is one measure that can provide additional reductions.

Table 1-1
Areas of Controversy

	Area of Controversy	Topics Raised by the Public	South Coast AQMD Staff Evaluation
5.	Availability of charging infrastructure to support ZE trucks.	Increased use of ZE trucks will require significant upgrades to the electric grid to provide sufficient charging infrastructure.	• There are many state policies pushing the rapid adoption of ZE vehicles (e.g., governor's executive order N-79-20). PR 2305 promotes installation of infrastructure to facilitate this transition by including installation of charging infrastructure as a WAIRE compliance option and by providing funding for charging infrastructure through the mitigation program. • Other state and regional entities are working on programs to develop charging infrastructure (e.g., Public Utilities Commission, Energy Commission, utilities). One of the WAIRE Menu actions available for compliance with PR 2305 is the installation of EV charging infrastructure which bolsters the overall availability of EV charging infrastructure.
6.	Points for pre-existing WAIRE Menu items such as pre-existing solar or TRU Plugs	Compliance option should consider pre-existing infrastructure (e.g., solar, TRU plugs).	• Pre-existing infrastructure can still earn WAIRE Points for operation. • PR 2305 also allows for Phase 2 or 3 warehouse owner or operators to earn WAIRE Points earlier than PR 2305 requires, and then bank those for use in later years. In order to not discourage early action, the three-year banking clock for these WAIRE Points would not start until the Phase 2 or 3 warehouse owner or operator is required to earn Points under PR 2305.
7.	Warehouse relocation	Warehouses might relocate outside of South Coast AQMD's jurisdiction to avoid complying with PR 2305.	• South Coast AQMD commissioned a study to evaluate the potential for warehouses to relocate to nearby regions in response to PR 2305. The study found that no warehouses would relocate at the proposed stringency level. Nonetheless, this Draft EA conservatively evaluates up to three warehouses relocating to a nearby region in Chapter 4. • The potential for warehouse relocation is discussed in more detail in the Staff Report and the Socioeconomic Analysis.

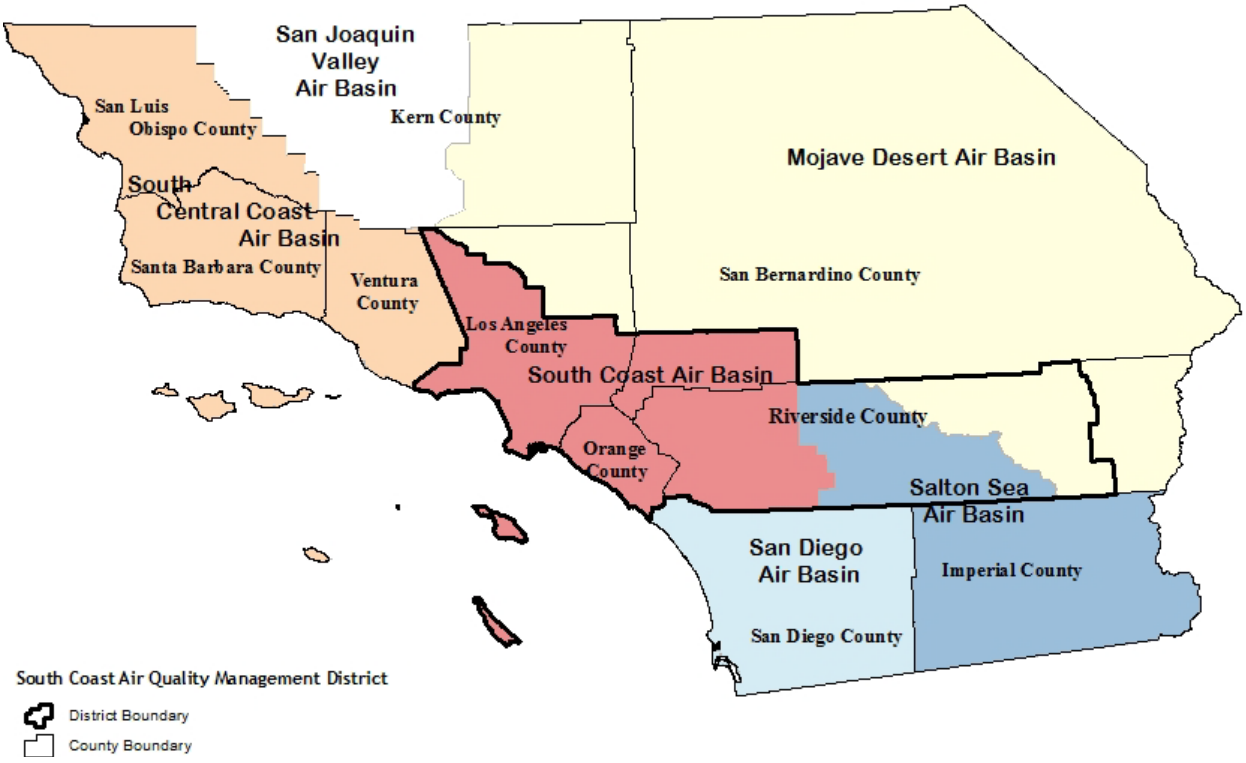
Physical changes that may be caused by PR 2305 have been evaluated in Chapter 4 of this EA. PR 316 provides a mechanism for the collection of administrative fees to be paid by warehouse facility or land owners, or operators subject to Rule 2305 to recover reasonable South Coast AQMD costs for compliance activities. No physical changes resulting from PR 316 have been identified. To date, no other controversial issues relevant to the CEQA analysis were raised in response to the NOP/IS for the proposed project.

CHAPTER 2 PROPOSED PROJECT

2.1 PROJECT LOCATION

The South Coast AQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (SCAB), and the Riverside County portion of the Salton Sea Air Basin (SSAB) and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin (MDAB). SCAB is a subarea of South Coast AQMD's jurisdiction, bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. A federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (see Figure 2-1).

Figure 2-1
Southern California Air Basins and South Coast AQMD's Jurisdiction



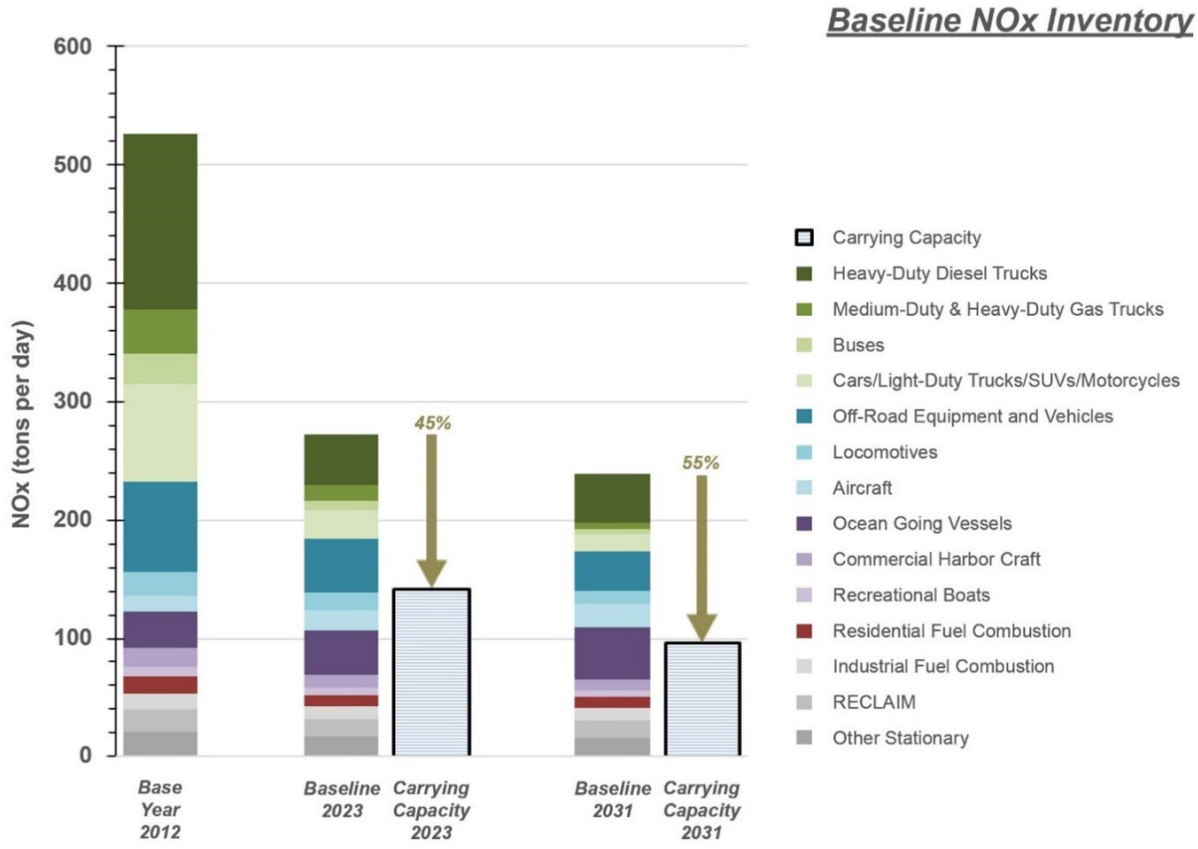
2.2 PROJECT BACKGROUND

In response to historical and ongoing exceedances of state and federal ambient air quality standards for PM10, PM2.5, and ozone, South Coast AQMD has adopted a series of AQMPs with the most

recent 2016 AQMP[1] adopted in March 2017. The 2016 AQMP evaluated new implementation strategies and control measures to achieve emission reductions to demonstrate how the region will meet federal air quality standards for ozone and PM2.5. The 2016 AQMP states NOx, VOC, and PM2.5 emissions need to be addressed, emphasizing NOx emission reductions are ultimately most important to meet federal standards for ozone and PM2.5. DPM is a component of PM2.5.

The 2016 AQMP includes potential regulatory control options to achieve multiple air quality goals. The primary goal of the 2016 AQMP is to reduce NOx emissions as one of many local, state, and federal strategies to meet the 1997 and 2008 8-hour ozone NAAQS. If these standards are met, then all other federal ozone and PM standards within South Coast AQMD should be achieved. In order to meet these air quality standards, total NOx emissions in the SCAB must be reduced by approximately 45 percent below 'baseline' 2023 levels, and 55 percent below 'baseline' 2031 levels (see Figure 2-2). 'Baseline' levels in this context refer to future emission levels that are expected with all adopted regulations in place at the time that the 2016 AQMP was approved by the South Coast AQMD Governing Board. Any new regulations adopted after the 2016 AQMP would reduce emissions below this 'baseline'[2].

Figure 2-2
NOx Emission Reductions Needed to Achieve Federal 8-Hour Ozone NAAQS



[1] South Coast AQMD, Final 2016 Air Quality Management Plan, March 2017. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

[2] Note that the term 'baseline' as used in this section refers to the emissions data presented in the 2016 AQMP. A traditional CEQA baseline is used in the enviroinmental impact analysis of this EA (i.e., the environment as it existed when the NOP was issued).

Source: South Coast AQMD, 2016 Air Quality Management Plan, Potential Strategies for Facility-Based Mobile Source Measures, May 4, 2018, Figure 1-1, page 1-1, http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-may4-032.pdf

To meet air pollution reduction goals, the 2016 AQMP contains Facility-Based Mobile Source Measures (FBMSMs) to reduce NOx and PM2.5 emissions associated with the goods movement industry as one of many local, state, and federal strategies to meet the 8-hour ozone NAAQS[3]. The FBMSMs were focused on four sectors of the goods movement industry: commercial marine ports, rail yards and intermodal facilities, warehouse distribution centers, and commercial airports.

2.2.1 Warehouse Distribution Centers

The 2016 AQMP included Control Measure MOB-03 – Emission Reductions at Warehouse Distribution Centers which required the assessment and identification of potential actions to reduce emissions associated with warehouse distribution centers[4]. Distribution centers and/or warehouses are facilities that serve as a distribution point for the transfer of goods and have a variety of emission sources. In particular, depending on the size and type, a warehouse distribution center may attract hundreds of diesel trucks each day which deliver, load, and/or unload goods, often operating seven days a week. Further, if the warehouse distribution center needs to transport perishable goods which require refrigeration, the trucks are equipped with diesel-fueled Transport Refrigeration Units (TRUs). In addition, diesel-fueled cargo handling equipment (CHE) such as yard tractors are utilized to move goods throughout the warehouse and onto or off of the trucks. Lastly, warehouse employees' commute trips via gasoline or diesel-fueled passenger vehicles also contribute to the overall emissions. Thus, emissions from trucks with or without TRUs, CHEs and warehouse employees all contribute to the overall emissions profile associated with warehouse distribution centers. Additional emissions sources include powerplant emissions associated with providing electricity to warehouses, natural gas usage for heating and water heating onsite, and potentially onsite stationary sources like diesel back up engines, vehicle fueling stations, or manufacturing equipment.

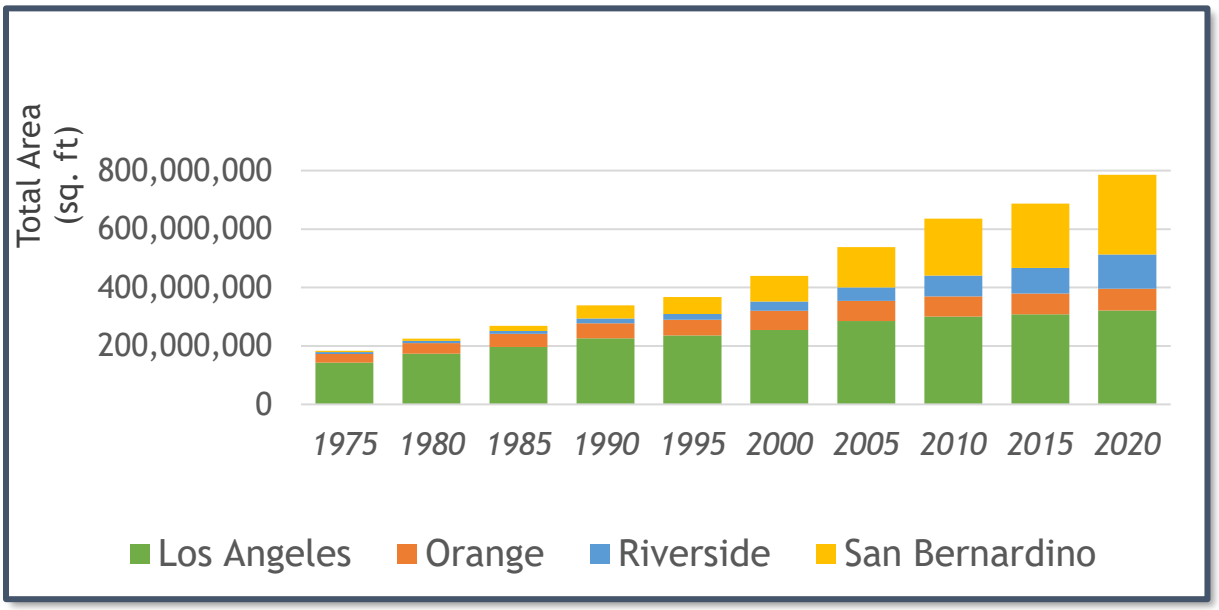
Over the past decade, the capacity and quantity of warehouse distribution centers have been increasing rapidly throughout the region (Figure 2-3), and future growth of this sector is projected to continue, with the greatest growth occurring in the Inland Empire (e.g., an additional ~15 million square feet per year added to the regional building stock)[5]. As shown in Table 2-1 below, the majority of NOx emissions currently and in the future are from heavy-duty diesel trucks.

[3] NOx is locally and regionally important due to its involvement in the photochemical formation of ozone and PM2.5.

[4] South Coast AQMD, Final 2016 Air Quality Management Plan, March 2017. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

[5] Southern California Association of Governments. 2018, April. Final Industrial Warehousing in the SCAG Region. https://scag.ca.gov/sites/main/files/file-attachments/final_report_03_30_18.pdf

Figure 2-3
Total Square Footage of Building Potentially Subject to PR 2305 by County in South Coast AQMD



Source: COSTAR

Table 2-1
Baseline NOx And DPM Emissions Inventory For Warehouses Potentially Subject to PR 2305

Emission Source	2019		2023		2031	
	NOx	DPM	NOx	DPM	NOx	DPM
Trucks	39.8	0.68	24.0	0.18	24.8	0.20
Passenger Vehicles	1.0	0.02	0.7	0.02	0.4	0.01
Cargo Handling Equipment	0.1	<0.01	0.1	<0.01	0.1	<0.01
TRUs	1.9	0.08	1.7	0.07	1.6	0.06
Total	***43.0***	***0.8***	***27.0***	***0.3***	***27.0***	***0.2***

Source: Table 13: Summary of Baseline Emissions Associated with PR 2305 Warehouses Expected to Earn WAIRE points; Preliminary Draft Staff Report: http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/preliminary-draft-staff-report.pdf

2.2.2 Working Group Meetings

In order to evaluate potential emission reduction strategies for the FBMSMs, including Control Measure MOB-03, South Coast AQMD staff convened FBMSM Working Groups with stakeholders to explore voluntary, collaborative approaches in addition to potential regulatory approaches to reduce emissions from facilities following adoption of the 2016 AQMP. A total of 17 working group meetings for all FBMSMs were held in the first year following the adoption of

the 2016 AQMP in March 2017, with three meetings held on June 1, 2017, October 4, 2017, and January 17, 2018, which specifically focused on warehouses.

After considering the recommendations by South Coast AQMD staff on potential voluntary and regulatory strategies developed from the FBMSM Working Group Meetings, the South Coast AQMD Governing Board, at the May 4, 2018 Public Hearing, directed staff to initiate the development of an ISR for warehouses and distribution centers. The Warehouse ISR Working Group was formed to discuss warehouse air quality related issues and to provide feedback on a potential ISR approach and 12 meetings were held on the following dates: August 1, 2018, August 23, 2018, October 24, 2018, March 22, 2019, August 23, 2019, September 19, 2019, November 13, 2019, December 10, 2019, March 3, 2020, October 9, 2020, October 30, 2020, and December 17, 2020. Additional working group meetings continue to be held as part of the rule development process. Presentations for the FBMSM and the Warehouse ISR Working Group meetings are available on the South Coast AQMD's website at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures/fbmsm-mtngs.

2.2.3 Warehouse ISR

Recognizing the importance of reducing criteria pollutant emissions from facilities that attract mobile emission sources, federal law allows states to adopt indirect source regulations. California law explicitly provides ISR authority to local air districts (Health and Safety Code Sections 40716, 40440). An indirect source is defined in the Federal Clean Air Act as "a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution." (42 United States Code (USC) Section 7410(a)(5)(C)).

As such, the following potential options for reducing emissions from the warehouse source category were discussed in the Warehouse ISR Working Group:

- **Facility Caps:** Allow emissions at each warehouse distribution center to be capped so each warehouse distribution center would have the flexibility to individually determine how to reduce emissions.
- **Local Government Measures:** Local governments may decide to tailor emission reduction strategies to address local needs (e.g., through their land use authority).
- **Clean Fleets Crediting/Banking Program:** Allow clean fleets to generate credits that would be managed through a bank while requiring ISR facilities to regularly purchase and apply the credits to offset emissions from individual warehouse distribution centers.
- **Voluntary Fleet Certification Program:** Allow fleet owners to certify their fleets are cleaner than what would otherwise be required by CARB regulations while requiring facilities to use a prescribed amount of certified fleets.
- **Best Management Practices (BMPs):** Allow facilities to choose from an assortment of BMPs such as utilizing ZE or NZE equipment on site, and/or installing ZE/NZE fueling and charging infrastructure, or solar energy storage.
- **Mitigation Fees:** Allow facilities to pay mitigation fees if other options are not chosen and apply collected funds to subsidize the purchase and use of ZE/NZE equipment or the installation of fueling/charging infrastructure.

Of these options, only the Best Management Practices (now the WAIRE Menu and Custom WAIRE Plan option) and the Mitigation Fee options have been carried forward to PR 2305. These options were found to be the least administratively burdensome for facilities and South Coast AQMD compliance staff, and ensured that emission reductions would be focused in the communities near warehouses. PR 2305 and PR 316 are described in the Project Description section below.

2.3 NEED FOR THE PROJECT

There are six key reasons why PR 2305 and PR 316 are needed. First and foremost, as discussed above, the South Coast AQMD region continues to experience ozone and fine particulate matter levels that exceed federal air quality standards. This poor air quality is among the worst, if not the worst, in the nation[6]. Attaining the air quality standards yields monetized health benefits that are estimated to be about 173 billion dollars[7]. NOx is the primary pollutant that needs to be reduced to meet federal air quality standards, and mobile sources associated with goods movement make up about 52 percent of all NOx emissions in the SCAB[8]. Trucks are the largest source of NOx emissions in the air basin and also for the emissions associated with warehouses. Any diesel PM reductions brought about by PR 2305 and PR 316 will also help meet federal air quality standards for fine PM. PR 2305 and PR 316 would contribute to reducing emissions from the goods movement sector by requiring warehouse operators to take actions to reduce emissions directly through their own actions, or through taking actions to facilitate emissions reductions.

Second, existing regulations are not sufficient to meet either the 2023 or 2031 federal ozone attainment standard dates. Even newly proposed regulations from CARB and U.S. EPA (as shown in CARB's Draft MSS) will not reduce NOx emission enough to be able to meet these air quality standards on their own, and additional actions are needed. The Draft MSS evaluates emissions from all mobile source sectors (which make up at least 80 percent of NOx emissions in South Coast AQMD) and identifies potential targets for future measures in order to meet the various state goals for air pollution and climate impacts[9]. A summary of the emission reductions CARB is targeting in 2031 from all vehicle sectors is shown in Figure 2-4. There are three key conclusions that can be drawn from the Draft MSS analysis:

1. Significant emissions reductions are required from all mobile source sectors in order to meet 2031 ozone standards.
2. The draft MSS analysis does not evaluate the 2023 ozone standard, and its proposed strategy will not meet this standard.
3. Some mobile source sectors with significant emissions and targeted emission reductions (e.g., ocean going vessels, locomotives, aircraft) may require regulations from either the federal government or from international bodies. Emission reductions from these sectors are

[6] American Lung Association. 2021. State of the Air 2020. https://www.stateoftheair.org/assets/SOTA-2020.pdf

[7] South Coast Air Quality Management District. 2017, March. Final Socio Economic Report. 2016 Final Air Quality Management Plan. http://www.aqmd.gov/docs/default-source/clean-air-plans/socioeconomic-analysis/final/sociofinal_030817.pdf

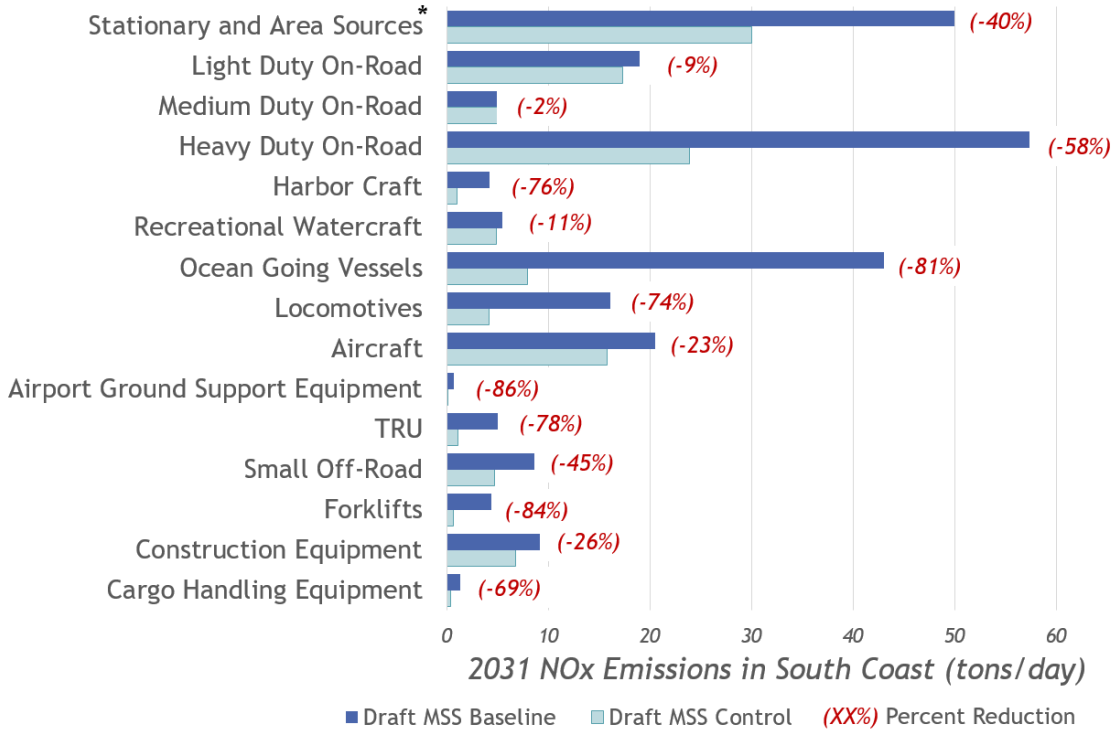
[8] Southern California Association of Governments. 2020, September 3. Connect SoCal Technical Report: Transportation System Goods Movement. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_goods-movement.pdf?1606001690

[9] Draft MSS available here: https://ww2.arb.ca.gov/resources/documents/2020-mobile-source-strategy

therefore likely more difficult to achieve than emission reductions from sources that operate solely within the state. If shortfalls occur from these sectors, more emissions reductions from other sectors (e.g., heavy duty on-road vehicles, cargo handling equipment, locomotives, aircraft, ocean going vessels, light duty on-road vehicles, etc.) may by required.

No single regulation could achieve federal air quality standards on its own, including PR 2305 and PR 316. However, these proposed rules are designed to contribute their own additional emissions reductions and enhance emission reductions from other programs, and are part of the collective of actions needed to meet air quality standards.

Figure 2-4
2031 Emission Reduction Targets in CARB Mobile Source Strategy



Source: CARB Draft 2020 Mobile Source Strategy, https://ww2.arb.ca.gov/resources/documents/2020-mobile-source-strategy

A third reason for the project is that the 2016 AQMP estimated that at least one billion dollars per year in incentive funding to clean up vehicle and engine fleets would be needed – absent any further regulations – to meet the 2023 and 2031 attainment dates. Although incentive funding has increased, reaching between 100 to 200 million dollars per year over the past few years,[10] it has not reached a level sufficient to turn over enough vehicles to meet air quality standards. Many incentive programs are oversubscribed, with demand far exceeding funding availability[11].

[10] South Coast Air Quality Management District. 2019, December 6. Final Contingency Measure Plan. Planning for Attainment of the 1997 80 ppb 8-Hour Ozone Standard in the South Coast Air Basin http://www.aqmd.gov/docs/default-source/planning/1997-ozone-contingency-measure-plan/1997-8-hour-ozone-draft-contingency-measure-plan---120619.pdf

[11] South Coast Air Quality Management District. 2020, December 18. Technology Committee Meeting. http://www.aqmd.gov/docs/default-source/Agendas/Technology/technology-committee-agenda-12-18-20.pdf

However, some programs are undersubscribed[12]. PR 2305 and PR 316 are designed to work with existing and future incentive programs. The requirements in PR 2305 and PR 316 are expected to increase industry's interest in incentive programs in order to reduce the cost of compliance. This can help ensure that all incentive funds are spent and can potentially spread incentives to a broader segment of industry if more recipients sign up for funding. Finally, much of the incentive funding that South Coast AQMD distributes is allocated annually as part of the state legislature's budgetary process. A regulatory requirement may increase the request for funding from the legislature by many stakeholders, which has the potential to further increase the amount of funding available and reduce the cost of compliance to industry.

A fourth need for PR 2305 and PR 316 includes providing support for statewide policies and objectives to increase the number of ZE vehicles. There are many actions occurring across state government to increase the use of ZE vehicles to satisfy many goals, including meeting federal and state air quality standards, reducing localized air quality impacts, reducing greenhouse gas emissions, etc.[13]. The South Coast AQMD is uniquely positioned to contribute to this effort with its indirect source authority. PR 2305 and PR 316 provide a mechanism to require warehouse operators to encourage ZE vehicle use at their facilities as one of many options of compliance.

A fifth air quality need is to ensure that state actions to require cleaner vehicles actually occur in the South Coast AQMD. The recent ACT and Low NOx Omnibus regulations assume a certain amount of new truck sales every year, and also assume that the activity of those newer, cleaner trucks will occur consistent with past behavior as demonstrated in the EMFAC model. However, the nature of those two regulations ensures that lower emissions occur only *if* trucks are sold, but it does not require any certain number of trucks to be sold, or to operate within the South Coast AQMD. Similarly, the upcoming TRU regulation is expected to have requirements for newly manufactured trailer TRUs to meet lower PM standards, yet will not mandate that fleets purchase them[14]. PR 2305 and PR 316 would place requirements on warehouse operators in South Coast AQMD that will encourage them to ensure that the potential benefits from these regulations occur here.

Finally, in addition to the regional pollution that exceeds federal air quality standards from emission sources associated with warehouses, there are important localized health effects from air pollution. Communities have repeatedly expressed concern about these impacts, including through the AB 617 process. In particular, diesel fueled vehicles and equipment like on-road trucks, off-road yard trucks, and TRUs emit diesel PM, a pollutant designated as a carcinogen by the state of California[15]. Diesel PM contains many pollutants (e.g., benzene, acetaldehyde, etc.) which are also recognized federally as hazardous air pollutants[16]. Further, the state Office of Environmental Health Hazard Assessment (OEHHA) has developed a tool to evaluate the environmental burden on communities throughout the state called CalEnviroScreen[17]. As seen in Figure 2-5 below, an

[12] South Coast Air Quality Management District. 2020, December 4. Governing Board Meeting. http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2020/2020-dec4-005.pdf

[13] Governor's Interagency Working Group on Zero-Emission Vehicles. 2018, September. 2018 ZEV Action Plan Priorities Update. https://static.business.ca.gov/wp-content/uploads/2019/12/2018-ZEV-Action-Plan-Priorities-Update.pdf

[14] California Air Resources Board. 2021 (Accessed). New Transport Refrigeration Unit Regulation in Development. https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit/new-transport-refrigeration-unit-regulation

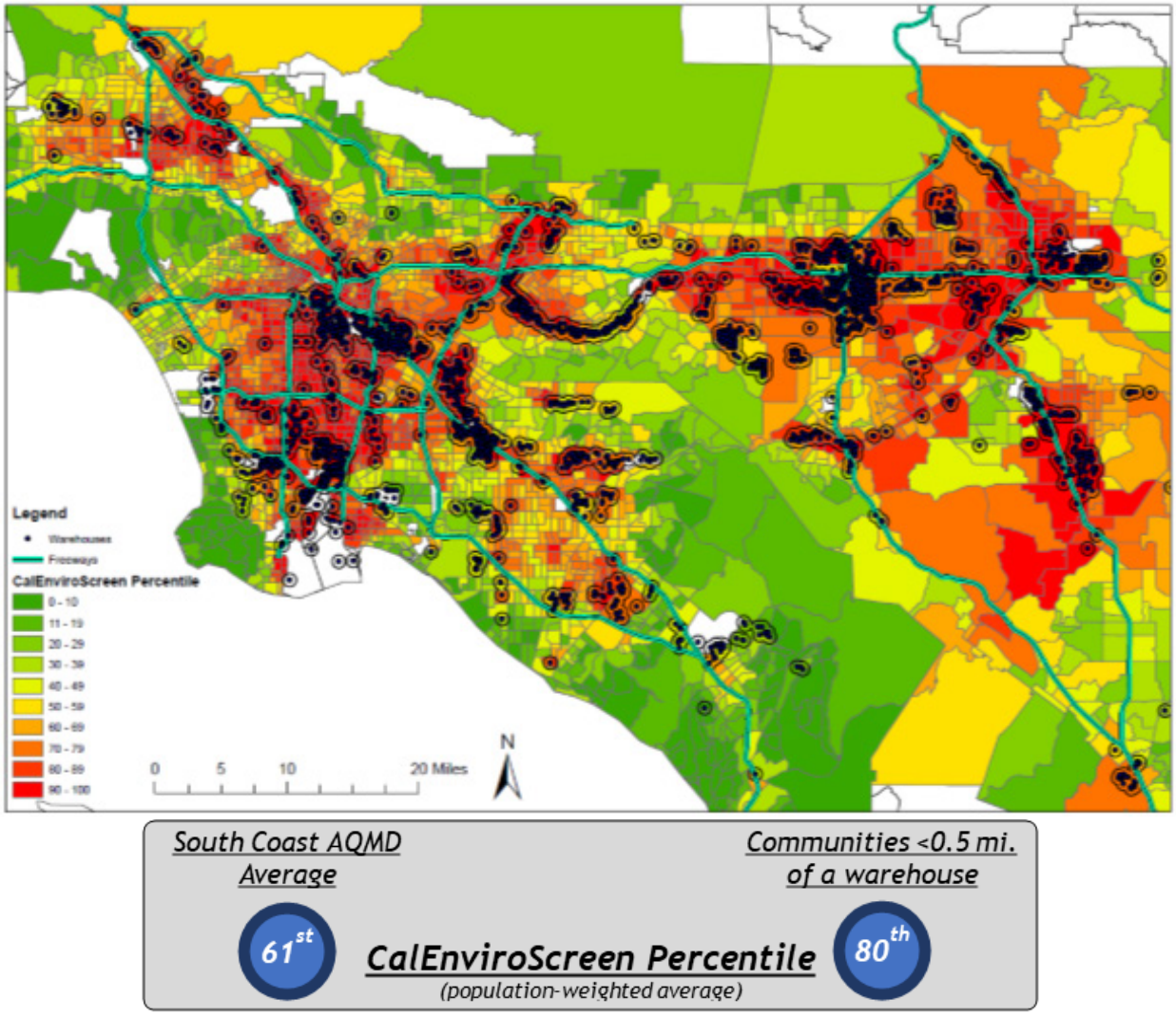
[15] Office of Environmental Health Hazards Assessment. Executive Summary For the "Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant." https://ww2.arb.ca.gov/sites/default/files/classic/toxics/dieseltac/finexsum.pdf

[16] United States Environmental Protection Agency. 2021 (Accessed). Initial List of Hazardous Air Pollutants with Modificationshttps://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications

[17] This tool ranks communities based on their pollution burden (e.g., air pollution levels), as well as community characteristics that can make them more susceptible to impacts from pollution (e.g., socioeconomic status). Communities are given a

analysis of communities in South Coast AQMD shows that those living within 0.5 miles of a PR 2305 warehouse rank in the 80th percentile according to CalEnviroScreen, whereas the average community in South Coast AQMD has much lower burden ranking in the 61st percentile. PR 2305 and PR 316 can reduce this local pollution burden on environmental justice communities by requiring warehouse operators to take actions to reduce emissions from trucks and other emission sources associated with their facility, as well as take actions to facilitate and enhance emission reductions from other programs (e.g., incentive programs, CARB regulations, etc.). Some of these disadvantaged communities with local pollution issues were selected to be part of the AB 617 Program, and all three Year 1 communities requested that the warehouse ISR be developed due to concerns about carcinogenic Diesel PM.

Figure 2-5
Environmental Burden on Communities Near PR 2305 Warehouses as Demonstrated by CalEnviroScreen



percentile score (out of 100%) to show how they compare with the rest of the state – higher scores mean they experience higher burden. (https://oehha.ca.gov/calenviroscreen).

2.4 PROJECT OBJECTIVES

The main objectives of the proposed project are to: 1) reduce NOx and PM, including DPM, emissions and reduce associated public health impacts from warehouse activities; 2) facilitate local and regional reduction of emissions associated with warehouses and the mobile sources attracted to warehouses in order to assist in meeting federal and state air quality standards for ozone and PM2.5; 3) implement actions to reduce air pollution that disproportionally affects environmental justice communities in accordance with AB 617; and 4) reduce exposure from emissions associated with warehouse activities for communities located in the vicinity of a warehouse.

2.5 PROJECT DESCRIPTION

The proposed project is comprised of PR 2305 and the associated mitigation program, and PR 316. The purpose of PR 2305 is to facilitate reductions of NOx and PM, including DPM, emissions associated with warehouses and the mobile sources attracted to warehouses subject to PR 2305 in order to assist in meeting state and federal air quality standards for ozone and PM2.5. Implementation of the proposed project is expected to result in NOx and PM, including DPM, emission reductions and reduced associated public health impacts from warehouse activities which will vary depending upon the implementation measures employed.

The purpose of PR 316 is to establish a mechanism for the collection of administrative fees to be paid by warehouses subject to PR 2305 to recover South Coast AQMD administrative costs associated with review of various notifications, Custom WAIRE Plan evaluation, reports and mitigation fees, as well as compliance activities such as conducting desktop audits, onsite inspections, and reviewing records.

2.5.1 Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program

The section provides a detailed summary of the key elements contained in PR 2305. A draft of PR 2305 can be found in Appendix A. PR 2305 is designed to apply to any new or existing warehouse located within South Coast AQMD's jurisdiction with an indoor warehouse floor space equal to or greater than 100,000 square feet within a single building. PR 2305 also applies to manufacturing or other facilities that have ancillary warehouses with equal to or greater than 100,000 square feet of indoor floor space in a single building.

Implementation of PR 2305 would initially affect about 3,320 warehouses. Some of these facilities have more than one tenant, so there are potentially a total of about 4,000 warehouse operators that may be subject to the rule. As new facilities are built, they would also become subject to the rule. It is expected that about 418 of these existing facilities would only be subject to reporting requirements in PR 2305. Figure 2-6 shows the approximate location of these existing facilities within South Coast AQMD's jurisdiction.

The WAIRE Program under PR 2305 is being developed so operators of warehouses subject to PR 2305 can implement changes to reduce emissions from mobile sources associated with their operations. Under this program, warehouse operators must report the number of truck trips for applicable warehouses over the prior 12-month compliance period. These truck trips in turn are converted into each operator's WAIRE Points Compliance Obligation (WPCO) for that compliance period. The WPCO can be satisfied by earning WAIRE Points. These WAIRE Points, in turn, are earned by completing actions and investments from the WAIRE Menu, completing

actions from an approved Custom WAIRE Plan, or paying the optional mitigation fee. Warehouse operators (or warehouse facility or land owners acting on behalf of their operators) must satisfy a WPCO every year.

2.5.1.1 Calculating WPCO

A warehouse's WPCO is calculated by multiplying the number of weighted annual truck trips (WATTs) by a Stringency factor and an Annual Variable as shown in the following equation.

$$WPCO = WATTS\ x\ Stringency\ x\ (Annual\ Variable)$$

Where:

- WPCO is the number of WAIRE Points a warehouse operator must earn in a year
- WATTs are the number of Weighted Annual Truck Trips
- Stringency factor is a dimensionless multiplier that determines how many Points an operator needs to earn
- The Annual Variable is a dimensionless multiplier which controls how the stringency will phase in through time

WATTs include the number of all actual truck trips from Class 2b to Class 8 vehicles that occurred at a warehouse (e.g., the number of trips to and from the warehouse) while the warehouse operator was responsible for operations during the previous 12-month compliance period. If a warehouse is occupied by more than one warehouse operator, the WATTs are only the truck trips attributed to that operator. Warehouse operators would be required to count and report all of the trucks entering their facility's truck entrance to determine the WATTs in every compliance year.

WATTs are calculated according to the following equation:

$$WATTs = [Class\ 2b\ to\ 7\ truck\ trips] + [2.5\ x\ Class\ 8\ truck\ trips]$$

In the rare event of a force majeure event such that the warehouse operator does not have truck trip information (e.g., records destroyed in a fire), then the WATTs(alt) are determined using default average truck trip rates.

$$WATTs(alt) = Days\ per\ Year\ x\ Warehouse\ Size\ x\ WTTR$$[18]

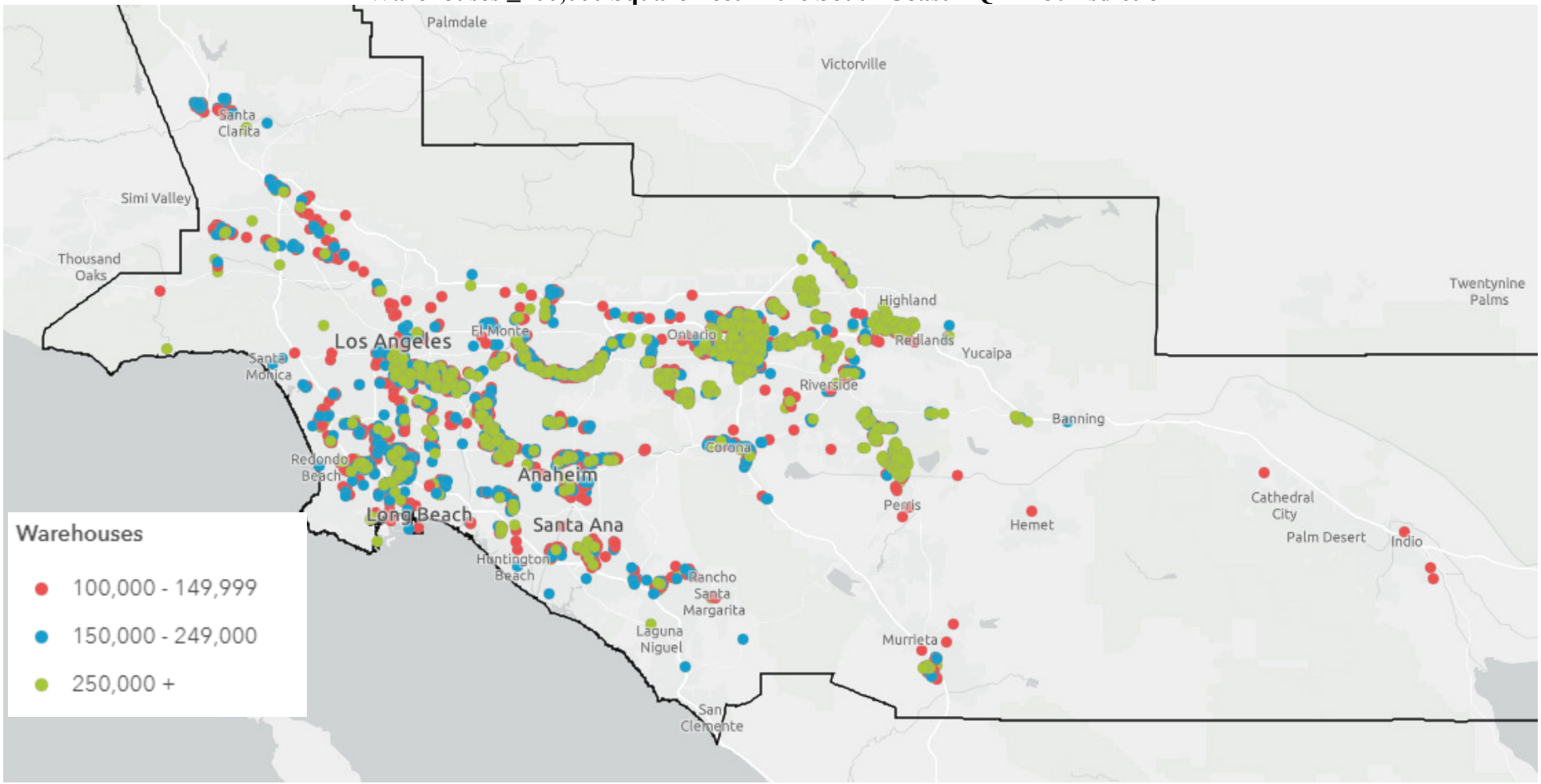
To determine how many WAIRE Points a warehouse operator needs to earn per WATT, a Stringency factor was developed. The factor was developed in consideration of balancing the following elements: emission reduction needs to meet attainment deadlines, emission reductions that can be achieved beyond what other regulations will require, the significance of emissions from the warehouse industry on local communities, and the economic impacts of PR 2305 on the warehousing industry. Balancing these elements, South Coast AQMD staff is proposing to set the Stringency factor at 0.0025 WAIRE Points per WATT.

The Annual Variable was developed to provide a phase-in of the proposed project's stringency and is tied to PR 2305's Phases (See Table 2 in Appendix A). The Annual Variable increases each year, beginning at an Annual Variable of 0.33 in the facility's initial compliance period year. Full stringency would be achieved in a facility's third compliance period year with an Annual Variable of 1.0. However, the Annual Variable is established relative to the proposed project's adoption and

[18] WATTs(alt) = Weighted Annual Truck Trips alternate calculation and WTTR = Weighted Truck Trip Rate

will not 'reset' for new facilities. For example, this means that a new Phase 3 warehouse facility built in 2025 submitting their first Annual WAIRE Plan after July 1, 2026 would be subject to an Annual Variable of 1.0, or full stringency. The steady increase in the Annual Variable attached to the warehouse Phases schedule allows for a gradual increase in WPCO in the initial years following the adoption of PR 2305.

Figure 2-6
Warehouses ≥100,000 Square Feet in the South Coast AQMD Jurisdiction



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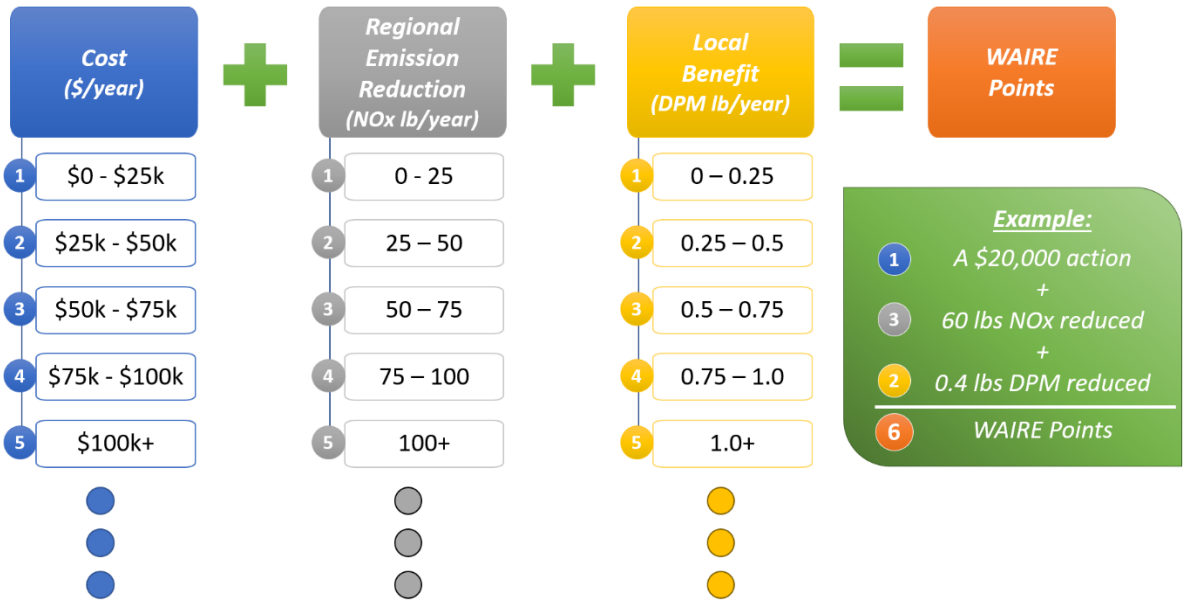
2.5.1.2 Earning WAIRE Points

WAIRE Points can be earned by completing actions and investments from the following menu of implementation measures: 1) acquiring and/or using NZE and ZE trucks; 2) acquiring and/or using ZE yard trucks; 3) installing and/or using ZE charging/fueling infrastructure (e.g., electric charger, hydrogen fuel station) for cars, trucks, and/or TRUs; 4) installing and/or using onsite energy systems (e.g., solar panels); and 5) implementing community benefits (e.g., air filters for sensitive receptors). In addition, warehouse operators may apply to earn WAIRE Points through a Custom WAIRE Plan specific to their operations that satisfy strict criteria.

Most warehouse operators are expected to earn WAIRE Points using the WAIRE Menu in Table 3 of PR 2305 (see Appendix A). This table equates the number of WAIRE Points earned to a set level of implementation of every action. For example, 365 visits by a Class 8 ZE truck in one year would earn 51 WAIRE Points. The exact methodology to determine the number of WAIRE Points for each action in the WAIRE Menu is described in the WAIRE Menu Technical Report (Appendix B of the Preliminary Draft Staff Report[19]). This method generally considers for each action: the annualized cost of installing and/or operating vehicles/infrastructure; the amount of regional NOx emissions reductions; and the local DPM emissions reduction benefit, which are generally weighted equally using the equation in Figure 2-7 below. Warehouse operators will not use this equation. Rather, they will only need to use the WAIRE Menu to determine how many WAIRE Points they have earned for this compliance option.

Figure 2-7
Methodology Approach to Develop WAIRE Points for Each WAIRE Menu Action



WAIRE Points may be earned only for actions that go beyond existing state and federal regulations. If adopted, PR 2305 will interact with other existing and upcoming regulations and incentive programs in varying ways. For example, some incentive programs like Carl Moyer

[19] South Coast Air Quality Management District.2021, January. Preliminary Draft Staff Report Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Proposed Rule 316 – Fees for Rule 2305. http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/preliminary-draft-staff-report.pdf

prohibit using funds to comply with a regulation. A warehouse operator that owns a fleet may not use Carl Moyer funds to purchase a truck and also earn WAIRE Points for that truck purchase. However, visits to a warehouse from a truck that was funded through the Carl Moyer program can still earn WAIRE Points because Carl Moyer does not require localized emission reductions near warehouses, and because the Carl Moyer program applies to truck owners and not warehouse operators. Separately, if CARB adopts a regulation that applies to warehouse operators (e.g., installing ZE charging infrastructure), they will not be able to use those actions to comply with PR 2305. However, if they implement actions beyond CARB requirements, or earlier than required by CARB, then they would be able to earn WAIRE Points for those actions.

In lieu of satisfying the WPCO via the WAIRE Menu, a warehouse operator may choose two other options, or may choose a combination thereof. The first is to prepare and then implement a Custom WAIRE Plan tailored to the operator's site that will achieve an equal number of WAIRE Points as would be obtained by implementing actions from the WAIRE Menu[20]. The types of projects that might fit within this approach that have been suggested by industry stakeholders include modifying a building's energy use throughout the day to draw more energy from renewable power sources (such as solar) rather than natural gas fueled power plants, or installing ZE charging infrastructure for onroad trucks at an offsite location, perhaps in cooperation with other nearby warehouse operators.

The Custom WAIRE Plan application shall follow the WAIRE Implementation Guidelines and the following criteria:

- Custom WAIRE Plan applications must demonstrate how the proposed action will earn WAIRE Points based on the incremental cost of the action, the NOx emission reductions from the action, and the DPM emission reductions from the action, relative to baseline conditions if the warehouse operator had not completed the action in that compliance year.
- Any WAIRE Points for emission reductions must be quantifiable, verifiable, and real as determined by the Executive Officer and consistent with the WAIRE Implementation Guidelines.
- Custom WAIRE Plan applications must include the following elements:
  - A description of how the proposed actions will achieve quantifiable, verifiable, and real NOx and DPM emission reductions as quickly as feasible, but no later than three years after plan approval; and
  - A quantification of expected NOx and/or DPM emission reductions from the proposed project within the South Coast AQMD and within three miles of the warehouse; and
  - A description of the method to be used to verify that the proposed project will achieve NOx and/or DPM emission reductions; and
  - A schedule of key milestones showing the increments of progress to complete the proposed project; and
  - A description of the location and a map of where the proposed project will occur; and

[20] The Custom WAIRE Plan option uses a similar method as the basis for the WAIRE Menu to determine the number of WAIRE Points earned for any particular action. PR 2305 (d)(4) describes the criteria for Custom WAIRE Plans, and the WAIRE Implementation Guide (Chapter 2 of the Preliminary Draft Staff Report) provides additional guidance for Custom WAIRE Plan applicants. Actions within a Custom WAIRE Plan can not be anything that is already listed in the WAIRE Menu.

- Any expected permits or approvals required by other private parties, or South Coast AQMD, or other federal, state, or local government agencies to implement the proposed plan.

Any proposed plan that relies on vehicle miles travelled (VMT) reduction must demonstrate that these reductions are surplus to what is included in the most recent approved Regional Transportation Plan (RTP) and AQMP.

The second option is that warehouse operators may elect to pay an optional mitigation fee to the South Coast AQMD that would be used in a mitigation program to achieve emissions reductions. Similar to the measures used to earn WAIRE Points, the mitigation program would implement measures such as subsidizing the purchase of NZE and ZE trucks and/or the installation of charging and fueling infrastructure for ZE trucks. The mitigation program would prioritize use of the mitigation fees in areas near the warehouses using this compliance option. Therefore, the environmental impacts associated with the mitigation program are similar to implementation of measures to earn WAIRE Points and are analyzed in this EA.

2.5.1.3 Transferring WAIRE Points

WAIRE Points accumulated by a warehouse owner or operator in a given compliance year can be transferred in one of three limited ways. First, an operator may transfer excess WAIRE Points from one of its warehouses to another of its warehouses. WAIRE Points transferred under this scenario are subject to a reduction via a locational discount to encourage emission reductions within the immediate vicinity of warehouses. The locational discount is intended to account for the reduced health benefits within the immediate vicinity of a warehouse that utilizes WAIRE Points earned at another warehouse. The net effect of applying a locational discount would result in the warehouse needing to secure more WAIRE Points via transfer than if it had otherwise self-generated WAIRE Points onsite.

Second, operators may bank WAIRE Points earned in excess of their WPCO for up to three years for use at the warehouse where the points were earned provided that the actions from the WAIRE Menu used to earn those points are not otherwise required by U.S. EPA, CARB or South Coast AQMD regulatory requirements in place at the time they are used. For example, while points may be earned prior to the adoption of a pending regulatory requirement, once the regulatory requirement is in effect, the points may not be used for future years. Furthermore, owners or operators transferring WAIRE Points to a different compliance year shall demonstrate that any onsite improvements or equipment installations that were used to earn the WAIRE Points being transferred are still operational at that warehouse facility in the year that WAIRE Points are used. WAIRE Points that are banked from one year to another are not allowed to be transferred to a different site. Similarly, WAIRE Points transferred to another site are not allowed to be banked to a later year.

Third, a warehouse owner may earn points and transfer the points to an operator of the same warehouse, and vice-versa, subject to the three-year WAIRE Points banking limitation. Transfers of WAIRE Points are allowed within an individual warehouse (e.g., from owner to operator) or between warehouses controlled by the same operator. Transfers between different operators at different warehouses are prohibited.

2.5.1.4 Reporting, Notification, and Recordkeeping Requirements

There are three types of reports required by PR 2305. The first is a Warehouse Operations Notification. Warehouse owners will be required to provide a Warehouse Operations Notification to the South Coast AQMD when any of the following conditions occur:

- Within 60 calendar days after adoption of PR 2305;
- Within 14 calendar days after a new warehouse operator has the ability to use at least 50,000 square feet of a warehouse that has greater than or equal to 100,000 square feet used for warehousing activities;
- Within 30 calendar days after a renovated warehouse has received a certificate of occupancy from the local land use agency such that the total warehouse space that may be used for warehousing activities has increased or decreased; or
- Within three calendar days of a request from the Executive Officer.

This Notification will need to contain basic information about the site, such as building size and how much of the building is used for warehousing activities, and the name and contact information of any tenant leasing the property and the length of the lease term. Many of the 3,320 initially identified facilities may not ultimately be required to earn WAIRE Points based on data provided in these Warehouse Operations Notifications. For example, a building that is 100,000 square feet in size that has only 80,000 square feet used for warehousing and 20,000 square feet used for offices would not be subject to the parts of PR 2305 that require operators to earn WAIRE Points. Other reasons that operators may not be required to earn WAIRE Points could include that the facility is not currently used for warehousing activity at all (e.g., it is used only for manufacturing, or is used as a church), or that no operator uses more than 50,000 square feet for warehousing activity in a building with multiple tenants.

The second type of report is a one-time Initial Site Information Report that warehouse operators must submit no later than January 15 of the year that they must submit their first Annual WAIRE Report (the third type of report). This Initial Site Information Report will include more detailed information pertaining to warehouse characteristics, truck trip data, fleet data if they own a fleet, and the anticipated implementation approach to satisfy the WPCO for the next compliance period.

Finally, warehouse operators required to satisfy a WPCO must submit an Annual WAIRE Report that includes truck trip data (used to determine their site-specific WPCO), details on actions that were implemented to earn WAIRE Points, and how many WAIRE Points were earned for the prior compliance period.

2.5.1.5 Timing of WAIRE Program

Implementation of PR 2305 will be annually phased-in according to warehouse size. As summarized in Table 2-2, the first compliance period is applicable to warehouses with the largest footprint of floor space (e.g., at least 250,000 square feet) with the Initial Site Information Report due by January 15, 2022 and the Annual WAIRE Report due by August 2, 2022.

Table 2-2
PR 2305 First Annual WAIRE Report Dates

Warehouse Size (square feet)	First Annual WAIRE Report Date
Greater than or equal to (≥) 250,000 square feet	August 2, 2022
≥to 150,000 square feet	August 1, 2023
≥to 100,000 square feet	July 31, 2024

2.5.2 Proposed Rule 316 – Fees for Regulation XXIII

The proposed project also includes Proposed Rule 316 – Fees for Regulation XXIII. These administrative fees will be paid by facilities subject to PR 2305 every year to cover the costs associated with submittal and review of various notifications, reports and mitigation fees, as well as compliance activities such as conducting desktop audits, onsite inspections, and reviewing records. Specific administrative fees are proposed for submitting an Annual WAIRE Report, Initial Site Information Report, Warehouse Operations Notification, Custom WAIRE Plan Evaluation, and/or Mitigation Fee. PR 316 also includes a fee schedule to address late fees and provides for a fee exemption for warehouses with less than 100,000 square feet of floor area within a single building used for warehousing activities for that year. A draft of PR 316 can be found in Appendix A.

PR 316 would individually qualify for a statutory exemption under CEQA Guidelines Section 15273 – Rates, Tolls, Fares, and Charges. However, it is being included as part of the project description for clarity.

2.6 TECHNOLOGY OVERVIEW

The following provides a brief description of the various near-zero (NZE) and zero emission (ZE) technologies included as WAIRE Menu actions that may be implemented by affected warehouse operators to comply with PR 2305. Because this technology is emerging, and because the proposed project would incentivize the purchase and use of these technologies, additional manufacturing and other facilities may be necessary to produce and fuel these vehicles.

2.6.1 Zero Emission and Near Zero Emission Trucks

Zero Emission (ZE) and Near Zero Emission (NZE) trucks are categorized by the definition of a ZE and NZE vehicle and the truck class. In the context of the proposed project, the definition of a ZE truck is the same as CARB's Advanced Clean Trucks Regulation definition. CARB's definition for a ZE truck is one *"with a drivetrain that produces zero exhaust emission of any criteria pollutant (or precursor pollutant) or greenhouse gas under any possible operational modes or conditions."* A Near Zero Emission (NZE) truck is one in which the engine meets CARB's lowest Optional Low NOx standard applicable at the time of manufacture (currently 0.02 g/hp-hr NOx, 90 percent lower than the 2010 standard set by EPA).

In addition to drivetrain technology, trucks are commonly classified based on their Gross Vehicle Weight Rating (GVWR). Table 2-3 below presents truck classifications.

Table 2-3
Truck Classes

Truck Class	GVWR (lbs)
Class 2b	8,501 – 10,000
Class 3	10,001 – 14,000
Class 4	14,001 – 16,000
Class 5	16,001 – 19,500
Class 6	19,501 – 26,000
Class 7	26,001 – 33,000
Class 8	33,001 and over

The ZE truck market is beginning to grow rapidly with many models entering the commercial market today and many major manufacturers announcing plans for future commercialization of battery-electric and hydrogen fuel cell electric trucks. Some notable manufacturer announcements include: Daimler Class 8 eCascadia, Navistar battery-electric Class 8, Volvo battery-electric VNR Class 8, Tesla's long range battery-electric tractor, BYD's battery-electric Class 6 and 8, Nikola's and Kenworth's (in conjunction with Toyota) hydrogen fuel cell tractors, with additional battery-electric trucks expected from newer manufacturers like Lion Rivian, Sea Electric, Chanje, Xos, Workhorse, GreenPower, etc. NZE engines are currently available in two sizes – 11.9 liter and 8.9 liter. Major truck manufacturers offer these engines in different truck classes, including for class 8 regional haul and/or drayage truck operations.

Trucks that visit warehouses may be owned by the warehouse operator or by a motor carrier not affiliated with that warehouse. Arrangements for a truck visit to a warehouse to deliver or pick up goods is typically made by the owner of the goods, or someone acting on their behalf. As such, each individual truck visiting a warehouse can have a unique operating profile that may not be shared by any other truck visiting that site. One truck may travel 30 miles on the inbound trip, and only two miles on the outbound trip. Another truck may be loaded with goods from multiple warehouses or stores, and determining what portion of a trip to attribute to each warehouse would be impractical.

2.6.2 Zero Emission Yard Trucks

Yard trucks are defined as a mobile utility vehicle, that operates as either an on- or off-road vehicle, used to carry cargo containers with or without a chassis (also commonly called yard tractors, terminal trucks, hostlers, yard jockeys, or yard goats).

Yard trucks move trailers and containers around warehouse facilities. Most yard trucks at warehouse facilities are diesel fueled and emit NOx, DPM, and other pollutants. Duty cycles for yard trucks vary depending on use, with heavier use at railyards and port facilities and lighter use typically at warehouses and manufacturing plants, as defined by hours of use and diesel consumption rates. CARB has limited population data for about 1,100 off-road yard tractors operating statewide through its DOORS reporting program for off-road vehicles, but it is unclear how many of these operate at warehouses in South Coast AQMD. In addition, many yard tractors can be on-road vehicles, which are not required to be reported through the DOORS system. For example, about two thirds of the roughly 1,600 yard tractors at the ports of Los Angeles and Long

Beach are on-road vehicles. Operation of yard trucks can be tracked by hours of use, with hourly usage varying from less than 1,000 hours per year up to 6,000 hours per year.

Many battery-electric yard tractor demonstration projects have taken place in the past several years, including in the South Coast AQMD. Following these efforts, multiple manufacturers have begun offering battery-electric ZE yard trucks for sale commercially including OrangeEV, Kalmar Ottawa, and BYD.

2.6.3 Electric Charging Infrastructure

An electric charger is defined as an electric charging station for vehicles. Each unique plug that can charge an individual vehicle at any time, regardless of whether other electric chargers or plugs are operating, is considered one electric charger. This equipment is also referred to as Electric Vehicle Supply Equipment (EVSE).

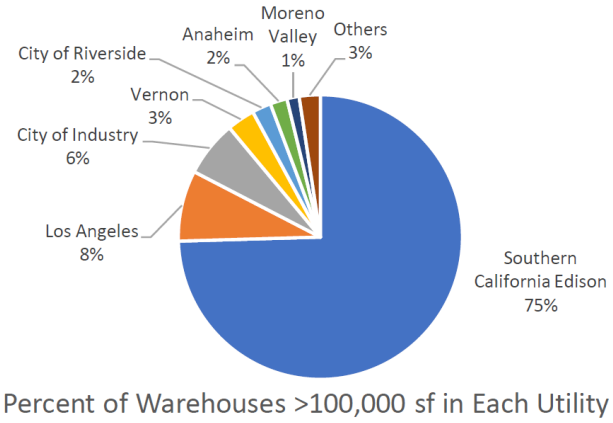
ZE battery electric trucks require specialized charging infrastructure. Installing this infrastructure can require facility electrical upgrades, dedication of space for electrical equipment and vehicle parking, permitting with local authorities, and plans to optimize charger usage. The charging stations themselves range in size and are typically rated based on the amount of kW that can be dispensed. Higher powered charging stations (greater than or equal to 350 kW) are just now entering the market, and may require more construction than lower powered charging stations on the market today. On the usage side, the cost of the electricity can vary depending on the time of day when trucks are charged, the kW charging level, and the level of demand charges. Utilities are introducing new rate structures for the use of these stations to address this new market need. Trucks that would use charging infrastructure at a warehouse are likely to travel to destinations unrelated to the warehouse itself, and providing this infrastructure can facilitate greater usage of ZE trucks.

Several different manufacturers sell EVSE at a variety of power levels (e.g., Level 2, Level 3, etc.), including with optional power management software that govern how trucks are charged. At the current early stage of commercialization and demonstration of electric trucks, the higher power chargers used for heavy duty vehicle charging have yet not followed a common standard, and proprietary charging systems are commonly tailored to each vehicle. This is expected to change in the near future with the development of a common High Power Charging for Commercial Vehicles standard by the CharIN organization. In addition, local utilities and land use agencies are developing programs specifically focused on charging infrastructure upgrades. Notable examples include the Charge Ready Transport program from Southern California Edison (SCE), the Commercial EV Charging Station Rebate Program from the Los Angeles Department of Water and Power (LADWP)[21], and permit streamlining efforts from many local permitting agencies[22]. SCE and LADWP collectively provide power to greater than 80 percent of warehouses that may be included in PR 2305 as shown in Figure 2-8.

[21] Los Angeles Department of Water and Power. 2021 (Accessed). Commercial EV Charging Station Rebate Program. http://www.ladwp.com/ladwp/faces/ladwp/commercial/c-savemoney/c-sm-rebatesandprograms/c-sm-rp-commevstation

[22] Governor's Office of Business and Economic Development. 2021 (Accessed). Plug-in Electric Vehicle Charging Station Readiness. Plug-in Electric Vehicle Charging Station Readiness (ca.gov)

Figure 2-8
Percent of Warehouse Greater than 100,000 Square Feet in Each Utility



While charging infrastructure on its own does not reduce emissions, this equipment does facilitate emissions reductions by providing additional locations for electric vehicles to obtain power and making it possible for their increased use.

2.6.4 Hydrogen Fueling Infrastructure

Hydrogen refueling stations (HRS) are used to supply fuel to vehicles with hydrogen fuel cell drivetrains. An HRS is composed of storage and dispensing units and can sometimes include a production unit if the hydrogen is produced on site. If the hydrogen is produced on site or delivered to the station at an intermediary pressure or in liquid state, intermediary storage is also needed along with a compression system. As hydrogen fuel cell vehicles (FCVs) penetrate the market through pilot programs and commercialization a robust HRS network will be needed for increased deployment of FCVs.

2.6.5 Solar Panels

Solar panels refers to a type of solar energy technology that uses photovoltaic cells to generate electricity through absorption and conversion of sunlight into electricity or heat. Solar panels create renewable energy which reduces dependence on existing fossil-fuel power plants. While solar panels on their own do not reduce emissions, as vehicles are increasingly electrified, solar energy production has a direct criteria pollutant emission reduction impact over time and assists in meeting federal ozone standards.

2.6.6 MERV 16 or Greater Filters or Filter Systems

Unlike the other WAIRE Menu items, the installation of high efficiency air filters or filter systems does not result in emission reductions from the generating source. Instead, these measures would reduce exposure to PM in the locations where these filters or filter systems are installed and utilized. It is important to note that the filters and filter systems have their limitations such as the increased cost associated with filter replacements, increased energy consumption to operate the system, filter effectiveness is limited to when the system is operating and the sensitive receptors are indoors with the windows closed, and the inability to filter out any toxic gases. Past studies

have shown that high-efficiency air filtration systems are effective in reducing PM concentrations, including DPM[23].

2.7 SUMMARY OF AFFECTED FACILITIES

The proposed project applies to qualifying-sized warehouses located within South Coast AQMD's jurisdiction. As the information contained within existing databases may not be sufficient to determine if the property is currently used for warehousing, or if warehousing activities are conducted in areas above PR 2305 thresholds, and because the warehousing industry is dynamic, the number of regulated entities is expected to change year to year as more warehouses are constructed, or as operations change at existing warehouses. Table 2-4 provides a summary of the warehouses anticipated to be affected by the proposed project.

Table 2-4
Existing Warehouses and Industrial Properties Expected to be Subject to PR 2305

County	Total Number of Industrial Properties Anticipated to be Subject to PR 2305	Total Number of Warehouses Likely Required to Earn WAIRE Points	Total Number of Warehouses and Industrial Properties Likely Only Subject to PR 2305 Reporting Requirements
Los Angeles	1,635	1,392	243
Orange	398	325	73
Riverside	406	365	41
San Bernardino	881	820	61
Total	**3,320**	**2,902**	**418**

The total number of warehouses expected to be affected by PR 2305 at the time of rule adoption is around 3,320. Any new warehouse would also be required to comply with the rule. The total number of warehouses likely required to earn WAIRE Points is 2,902[24] and the number of warehouses and industrial properties likely only subject to reporting requirements is 418[25].

Warehouses may be categorized many ways. A study commissioned by South Coast AQMD described the main categories of affected warehouses as 1) general purpose warehouses (port- or non-port related); 2) transload facilities; 3) cross-dock transload facilities; 4) truck terminals for less-than-truckload trucks; 5) general purpose distribution centers; 6) manufacturing and

[23] South Coast AQMD Pilot Sutdy of High Performance Air Filtration for Classroom Applications, available online at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf
[24] About 919 are in Phase 1, about 931 are in Phase 2, and about 1,052 are in Phase 3.
[25] About 37 in Phase 1, about 57 in Phase 2, and about 324 in Phase 3.

distribution facilities; 7) retail fulfillment centers; and 8) cold storage facilities. An overview of the warehouses affected by PR 2305 described by category is included below[26,27].

General Purpose Warehouse (GPW) is a facility used to store goods. The majority of general purpose warehouses are operated by Logistics Service Providers or Third-party Logistics Providers (LSP or 3PL). The primary function of a GPW is to store goods that usually have not been sold yet. Value-added services like barcode application and scanning, ticketing and labeling, and carton packing are also provided at these facilities. Goods typically stay at a GPW several weeks to several months.

> **Port-related General Purpose Warehouses** are in commercial and industrial clusters. Port-related import products include international manufactured or processed goods, such as textiles and apparel, footwear, electronics, and home and office supplies.
>
> **Non-Port-Related General Purpose Warehouses** are dispersed throughout the South Coast AQMD jurisdiction and typically include storage of domestic products, which may be domestically manufactured, harvested, or processed goods, such as chemicals, minerals, pharmaceuticals, agricultural products, and other food products.

Transload Facility is a special purpose port-related facility that typically handles imported products. Transloading refers to the transfer of contents from marine containers (40 feet) into domestic rail or truck containers or trailers (53 feet) near a US gateway port for onward movement to an inland destination. Cargo is transferred based on the destination, specified by the beneficial cargo owner (BCO). Transloading typically reduces the per-unit cost of inland transportation for importers. The turnaround time for these facilities is usually up to one week.

Crossdock Transload Facility is a transload facility that handles cargo for export, import, or domestic cargo. The difference between a transload and a crossdock facility is purely operational, with both structured very similarly. They are pure distribution facilities, with no storage. At a Crossdock Transload Facility, the time from receipt to shipment is less than 24 hours. Goods generally leave these facilities in full truckloads.

Truck Terminals for Less-Than-Truckload Trucks (LTL) are facilities used to transfer domestic and imported cargo in small order quantities. They are operated by a motor carrier to transfer the less-than-truckload shipments from one truck to another. Sorting and segregation of inbound cargo takes place to make one outbound LTL truck, with cargo typically stored up to one week. The outbound LTL trucks contain orders meant for multiple customers within a limited geographical area, while full truckloads are filled with cargo designated for a single customer.

General Purpose Distribution Centers (DCs) are warehouses operated by beneficial cargo owners (BCOs), or outsourced to LSPs, to manage storage and distribution of inventory for their customers. Distribution centers store product for retailers and wholesalers to be redistributed to

[26] South Coast Air Quality Management District. 2020, December 23. Technical Memorandum on Warehousing and Logistics Industry in the South Coast Air Quality Management District. http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/iec_pr-2305-warehouse-relocation-report-(12-23-20).pdf

[27] Southern California Association of Governments. 2018, March 30. Industrial Warehousing in the SCAG Region, Full Report, (2018), Southern California Council of Governments. https://scag.ca.gov/sites/main/files/file-attachments/final_report_03_30_18.pdf

another location or directly to the consumer. DCs are positioned strategically to maximize the range of customers they are able to serve and keep delivery costs low. Turnaround time varies depending on cargo type and demand but is generally shorter than in a GPW, on the order of weeks. The flow of product is very large, and each order may contain hundreds or thousands of items.

Retail Fulfillment Centers are special-purpose DCs that have become much more common in the supply chains of large retailers. Typically, DCs replenish store stock and ship to retailer stores, while retail fulfillment centers process individual consumer orders placed through catalogs and the Internet, replenish store inventory from the stock on hand, and serve local retail customers.

Manufacturing and Distribution Facilities are facilities that consist of onsite manufacturing, warehousing, and distribution. At least 50 percent of the floor area is dedicated to manufacturing. The smallest part of the facility is dedicated for office space, no more than 10 percent, and the remaining floor area is used for warehouses and distribution facilities.[28] Separate warehouses are dedicated for incoming raw materials and for finished goods. The raw materials or products are stored in the warehouses from two weeks to 90 days.

Cold Storage Facilities are functionally identical to regular distribution centers, except that all products must be either refrigerated or frozen, and the turnaround time is very short to ensure freshness. Trucks serving these facilities are often equipped with a transportation refrigeration unit (TRU), and there are commonly more truck trips at these facilities than at equivalently sized non-cold storage facilities. This type of distribution center uses the same strategy as regular distribution centers, and overall reduces the number of LTL trucks driving from a vendor to a retail store.

Additional warehouse subcategories that are specialized cases of the categories above are detailed below.

Parcel Hubs are a unique hybrid of a transload facility and a distribution center. Starting with either a mail carrier or a company's retail store, small packages are sent to a regional parcel hub and sorted by destination. The parcels are consolidated onto a pallet and shipped to another parcel hub near the package's destination. The pallets may pass through a dedicated transloading facility near an airport or shipped directly via a class 8 truck.

E-commerce Fulfillment Center are specialized DCs that support online orders. The facilities process a large number of individual consumer orders placed through the Internet. Orders are generally small, one to three items, and are filled and shipped within hours. These centers are typically located in proximity to highways in order to accommodate the large number of delivery vehicles accessing the facility.

[28] Yap, Johannson and Circ, Rene. 2003. Guide to Classifying Industrial Property, Second Edition. Urban Land Institute.

Table 2-5
Warehousing Facilities[29]

Warehouse Category	Description of Facility	Building Location
General Purpose Warehouse	The typical area is 25,000 to 50,000 sq. ft., with low-ceiling height, and varying width.	Not Specific
Transloading Facility	The typical area is 25,000 to 50,000 sq. ft., with low-ceilings, and a narrow rectangular shape with multiple doors on the long side. One side is meant for inbound containers and the opposite is meant for outbound containers.	Depends on Proximity to Ports
Crossdock Transload Facility	The typical area is 25,000 to 50,000 sq. ft., with low-ceilings, and a narrow rectangular shape with multiple doors on the long side. One side is meant for inbound containers and the opposite is meant for outbound containers.	Depends on Proximity to Ports
Parcel Hub	The typical area can be up to 500,000 sq. ft.	Depends on Proximity to Market
Truck Terminal for Less-Than-Truckload Trucks	The typical area is anywhere from 25,000 sq. ft. to 150,000 sq. ft., with low-ceilings. It's usually narrow and long with multiple doors to quickly and efficiently process cargo.	Not Specific
General Purpose Distribution Center	The building size can vary greatly depending on the distributer, ranging from 50,000 sq. ft. to 500,000 sq. ft. and are generally very tall.	Depends on Proximity to Market
Manufacturing and Distribution	The size can range from 200,000 sq. ft. to 1,000,000 sq. ft. or more depending if light or heavy manufacturing.	Not Specific
Retail Fulfillment Center	The area ranges from 500,000 sq. ft. to 1,000,000 sq. ft., with very high ceilings to accommodate the automated pick and pack technology.	Depends on Land Availability
E-commerce Fulfillment Center	Square footage varies.	Depends on Proximity to Market
Cold Storage Facility	The building size depend on demand and turn over time.	Depends on Proximity to Market

[29] South Coast Air Quality Management Distrrict. 2020, December 23. Technical Memorandum on Warehousing and Logistics Industry in the South Coast Air Quality Management District. http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/iec_pr-2305-warehouse-relocation-report-(12-23-20).pdf

CHAPTER 3 EXISTING SETTING

3.0 INTRODUCTION

In order to determine the significance of the impacts associated with a proposed project, it is necessary to evaluate the project's impacts against the backdrop of the environment as it exists at the time the environmental analysis is commenced. The CEQA Guidelines define 'environment' as "the physical conditions that exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance" (CEQA Guidelines Section 15360; *see also* Public Resources Code §21060.5). Furthermore, a CEQA document must include a description of the physical environment in the vicinity of the project, as it exists at the time the environmental analysis is commenced, from both a local and regional perspective (CEQA Guidelines Section 15125). Therefore, the 'environment' or 'existing setting' against which a project's impacts are compared consists of the immediate, contemporaneous physical conditions at and around the project site.

The following sections summarize the existing setting for the proposed project and the existing rules that will be affected by the proposed project, as well as the regional existing setting for air quality and greenhouse gas emissions, energy, hazardous materials and solid and hazardous waste[1], and transportation (traffic). In addition, these documents incorporate by reference the existing setting for Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, and Utilities and Service Systems, as described in CARB's Final Environmental Analysis for the Advanced Clean Trucks Regulation. These impact areas are only affected by potential indirect impacts of the project, i.e., potential development of new manufacturing and recycling facilities to produce and fuel zero emissions vehicles incentivized by the proposed project, as well as infrastructure improvements to support the transition to NZE and ZE vehicles. These indirect impacts were analyzed in CARB's Final Environmental Analysis for the Advanced Clean Trucks Regulation.

[1] During the public comment period on the NOP/IS, South Coast AQMD received comments related to the environmental impacts associated with the increased disposal of batteries. Therefore, the environmental impacts related to the increased disposal of batteries have been included and analyzed in the topic area of hazardous materials and solid and hazardous waste in this EA and a discussion of the environmental setting is provided in this chapter.

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3.1 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Ambient air quality standards have been adopted at the state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of toxic air contaminants and GHG emissions. Projects within South Coast AQMD's jurisdiction are subject to the rules and regulations imposed by the South Coast AQMD as regulations adopted by CARB and U.S. EPA. Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized in this section.

3.1.1 Air Quality Management Planning

The California Legislature created the South Coast AQMD in 1977[1] as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (SCAB) and the Riverside County portion of the Salton Sea Air Basin (SSAB) and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin (MDAB).

In 1977, amendments to the federal Clean Air Act (CAA) included requirements for submitting State Implementation Plans (SIPs) for nonattainment areas that failed to meet all federal ambient air quality standards (CAA Section 172), and similar requirements exist in state law (Health and Safety Code Section 40462). The federal CAA was amended in 1990 to specify attainment dates and SIP requirements for ozone, carbon monoxide (CO), nitrogen dioxide (NO2), and particulate matter (PM) with an aerodynamic diameter of less than 10 microns (PM10). In 1997, the United States Environmental Protection Agency (U.S. EPA) promulgated ambient air quality standards for particulate matter with an aerodynamic diameter less than 2.5 microns (PM2.5 or fine particulate matter). U.S. EPA is required to periodically update the national ambient air quality standards (AAQS or standards).

In addition, the California Clean Air Act (CCAA), adopted in 1988, requires the South Coast AQMD to achieve and maintain the State ambient air quality standards for ozone, CO, sulfur dioxide (SO2), and NO2 by the earliest practicable date (Health and Safety Code Section 40910). In addition, the CCAA includes a standard for fine particulate matter, or PM2.5. Notably, for ozone, the current 8-Hour CAAQS and the 2015 8-hour NAAQS are at an equivalent level and for PM2.5, the current annual CAAQS and the 2012 annual NAAQS are also at an equivalent level. As a result, the South Coast AQMD relies on the same measures to meet both federal and state ozone and PM2.5 standards. The CCAA also requires a three-year plan review, and, if necessary, an update to the SIP. The CCAA requires air districts to achieve and maintain state standards by the earliest practicable date and for extreme non-attainment areas, to include all feasible measures pursuant to Health and Safety Code Sections 40913, 40914, and 40920.5. While not defined in this part of the Health and Safety Code, the term 'feasible' is defined in the CEQA Guidelines[2] Section 15364, as a measure "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., Ch. 324 (codified at Health and Safety Code Section 40400-40540).

[2] The CEQA Guidelines are codified at Title 14 California Code of Regulations Section 15000 *et seq.*

3.1.1.1 South Coast AQMD Air Quality Management Plan

By statute, the South Coast AQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the areas under the jurisdiction of the South Coast AQMD.[3] Furthermore, the South Coast AQMD must adopt rules and regulations that carry out the AQMP.[4] The AQMP is a regional blueprint for how the South Coast AQMD will achieve air quality standards and healthful air and the 2016 AQMP[5] contains multiple goals promoting reductions of criteria air pollutants, greenhouse gases (GHGs), and toxic air contaminants (TACs). In particular, the 2016 AQMP states that oxides of nitrogen (NOx), volatile organic compound (VOC), and PM2.5 emissions need to be reduced to meet key ozone air quality standards in 2023 and 2031, with emphasis that NOx emission reductions are more effective to reduce the formation of ozone and PM2.5. Ozone (O3) is a criteria pollutant shown to adversely affect human health and is formed when VOCs react with NOx in the atmosphere. NOx is a precursor to the formation of ozone and PM2.5. The 2016 AQMP specifically recognized that the "NOx strategy will assist in meeting the annual PM 2.5 standard as 'expeditiously as practicable' earlier than the attainment year of 2025."[6] The South Coast AQMD has also initiated development of the 2022 AQMP that will focus on meeting the 70 ppb NAAQS for ozone by 2037.

To meet air pollution reduction goals, the 2016 AQMP contains a variety of control measures, which include Facility-Based Mobile Source Measures (FBMSMs), also known as indirect source measures or rules. An indirect source rule (ISR) is distinct from a traditional air pollution control regulation that focus on stationary equipment in that ISR focuses on reducing emissions from the vehicles and other emissions sources associated with a facility rather than just emissions from a facility itself.[5] The primary goal of the FBMSMs is to reduce NOx emissions as one of many local, state, and federal strategies to meet the 8-hour ozone federal standard, but they can also assist in reducing other criteria pollutants like PM2.5. NOx is locally and regionally important due to its involvement in the photochemical formation of ozone, nitrogen dioxide (NO2), and PM2.5. Mobile sources associated with goods movement make up about 52 percent of all NOx emissions in the SCAB.[7]

The FBMSMs are concentrated on the four sectors of the goods movement industry: commercial marine ports, rail yards, warehouse distribution centers, and commercial airports. Of these FBMSMs, Control Measure MOB-03 – Emission Reductions at Warehouse Distribution Centers, committed to achieve emission reductions from the warehouse sector. The South Coast AQMD Governing Board approved the 2016 Air Quality Management Plan (2016 AQMP) in March of 2017 and forwarded that approval to CARB. Later that month, CARB approved the 2016 AQMP into the SIP and the 2016 AQMP was ultimately approved by U.S. EPA on October 1, 2019. The 2016 AQMP included MOB-03, a facility-based mobile source control measure to reduce emissions from warehouse distribution centers. Initially, the South Coast AQMD Governing Board

[3] Health and Safety Code Section 40460(a).

[4] Health and Safety Code Section 40440(a).

[5] South Coast AQMD, Final 2016 Air Quality Management Plan, March 2017. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

[6] South Coast AQMD, Final 2016 Air Quality Management Plan, March 2017. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp (page 4-52)

[7] SCAG 2020 Regional Transportation Plan. Accessed Oct. 7, 2020. https://www.connectsocal.org/Documents/Adopted/fConnectSoCal_Goods-Movement.pdf#page=4

authorized a one-year public process to identify if MOB-03 could be achieved through voluntary or regulatory measures, and then ultimately determined in May of 2018, that staff should pursue a regulatory approach.

3.1.2 Air Quality Regulations and Plans

3.1.2.1 Federal and State

It is the responsibility of South Coast AQMD to ensure that state and federal ambient air quality standards (AAQS or standards) are achieved and maintained in its geographical jurisdiction.

3.1.2.1.1 Air Pollutants of Concern

Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone (O3), carbon monoxide (CO), nitrogen dioxide (NO2), particulate matter (PM, which includes PM10 and PM2.5), sulfur dioxide (SO2), and lead (Pb). These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are sometimes more stringent than the federal standards and in the case of PM10 and SO2, far more stringent. However, for ozone, the current 8-Hour CAAQS and the 2015 8-hour NAAQS are at an equivalent level and for PM2.5, the current annual CAAQS and the 2012 annual NAAQS are also at an equivalent level. As a result, the South Coast AQMD relies on the same measures to meet both federal and state ozone and PM2.5 standards. California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride. The state and federal standards for each of these pollutants and their effects on health are summarized in Table 3.1-1.

South Coast AQMD monitors levels of various criteria pollutants at 38 monitoring stations. The 2019 air quality data (the latest data available) from South Coast AQMDs monitoring stations are presented in Tables 3.1-2 through 3.1-8 for the individual criteria air pollutants monitored by South Coast AQMD.

Table 3.1-1
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard[a]	Federal Primary Standard[b]	Most Relevant Effects
Ozone (O3)	1-hour	0.09 ppm (180 µg/m^3)	0.12 ppm	(a) Short-term exposures: 1) Pulmonary function decrements and localized lung edema in humans and animals; and 2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; and (d) Property damage.
	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	
Suspended Particulate Matter (PM10)	24-hour	50 µg/m^3	150 µg/m^3	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; and (b) Excess seasonal declines in pulmonary function, especially in children.
	Annual Arithmetic Mean	20 µg/m^3	No Federal Standard	
Suspended Particulate Matter (PM2.5)	24-hour	No State Standard	35 µg/m^3	(a) Increased hospital admissions and emergency room visits for heart and lung disease; (b) Increased respiratory symptoms and disease; and (c) Decreased lung functions and premature death.
	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses.
	8-Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	

The California ambient air quality standards for O3, CO, SO2 (1-hour and 24-hour), NO2, PM10, and PM2.5 are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.
The national ambient air quality standards, other than O3 and those based on annual averages are not to be exceeded more than once a year. The O3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standards is equal to or less than one.

Carbon Monoxide

CO is a primary pollutant, meaning that it is directly emitted into the air, not formed in the atmosphere by chemical reaction of precursors, as is the case with ozone and other secondary pollutants. Ambient concentrations of CO exhibit large spatial and temporal variations due to variations in the rate at which CO is emitted and in the meteorological conditions that govern transport and dilution. Unlike ozone, CO tends to reach high concentrations in the fall and winter months. The highest concentrations frequently occur on weekdays at times consistent with rush hour traffic and late night during the coolest, most stable portion of the day.

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise and electrocardiograph changes indicative of worsening oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes. Reductions in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include preterm births and heart abnormalities.[8, 9,10]

As summarized in Table 3.1-2, CO concentrations were measured at 24 locations in the SCAB and neighboring SSAB in 2019 but did not exceed the state or federal standards in 2019. All areas within the South Coast AQMD's jurisdiction are in attainment for of both the federal and state 1-hour and 8-hour CO standards.

On August 12, 2011, U.S. EPA added a monitoring requirement for near-road CO monitors in urban areas with populations of one million or more, utilizing stations that would be implemented to meet the 2010 NO_2 near-road monitoring requirements. The two new CO monitors are at the I-5 near-road site, located in Orange County near Anaheim, and the I-10 near-road site, located near Etiwanda Avenue in San Bernardino County near Ontario, Rancho Cucamonga, and Fontana.

[8] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants. Accessed December 10, 2020 https://www.epa.gov/criteria-air-pollutants.

[9] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf

[10] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document

Table 3.1-2
South Coast AQMD – 2019 Air Quality Data – CO

CARBON MONOXIDE (CO)[a]				
Source Receptor Area No.	**Location of Air Monitoring Station**	**No. Days of Data**	**Max. Conc. in ppm 1-hour**	**Max. Conc. in ppm, 8-hour**
LOS ANGELES COUNTY				
1	Central Los Angeles	364	2.0	1.6
2	Northwest Coastal Los Angeles County	364	1.9	1.2
3	Southwest Coastal Los Angeles County	364	1.8	1.3
4	South Coastal Los Angeles County 1	--	--	--
4	South Coastal Los Angeles County 2	--	--	--
4	South Coastal Los Angeles County 3	340	3.0	2.1
4	I-710 Near Road[##]	--	--	--
6	West San Fernando Valley	363	2.6	2.2
8	West San Gabriel Valley	361	1.5	1.2
9	East San Gabriel Valley 1	361	1.6	1.1
9	East San Gabriel Valley 2	360	1.2	0.8
10	Pomona/Walnut Valley	364	1.7	1.3
11	South San Gabriel Valley	354	1.9	1.5
12	South Central Los Angeles County	363	3.8	3.2
13	Santa Clarita Valley	359	1.5	1.2
ORANGE COUNTY				
16	North Orange County	364	2.6	1.2
17	Central Orange County	363	2.4	1.3
17	I-5 Near Road[##]	350	2.6	1.6
18	North Coastal Orange County	--	--	--
19	Saddleback Valley	363	1.0	0.8
RIVERSIDE COUNTY				
22	Corona/Norco Area	--	--	--
23	Metropolitan Riverside County 1	364	1.5	1.2
23	Metropolitan Riverside County 3	364	2.0	1.3
24	Perris Valley	--	--	--
25	Lake Elsinore	364	1.6	0.7
26	Temecula Valley	--	--	--
29	San Gorgonio Pass	--	--	--
30	Coachella Valley 1**	360	1.3	0.7
30	Coachella Valley 2**	--	--	--
30	Coachella Valley 3**	--	--	--
SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	337	1.5	1.1
33	I-10 Near Road[##]	364	1.5	1.1
33	CA-60 Near Road[##]	--	--	--
34	Central San Bernardino Valley 1	359	2.7	1.0
34	Central San Bernardino Valley 2	352	1.3	1.1
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--

Table 3.1-2
South Coast AQMD – 2019 Air Quality Data – CO

CARBON MONOXIDE (CO)[a]				
Source Receptor Area No.	**Location of Air Monitoring Station**	**No. Days of Data**	**Max. Conc. in ppm 1-hour**	**Max. Conc. in ppm, 8-hour**
DISTRICT MAXIMUM[b]			**3.8**	**3.2**
SOUTH COAST AIR BASIN[c]			**3.8**	**3.2**

Ppm = parts per million
-- Pollutant not monitored
* Incomplete Data
** Salton Sea Air Basin

Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO2 are operating near the following freeways: I-1, I-10, CA-60, and I-710.

[a] The federal 8-hour standard (8-hour average CO > 9 ppm) and state 8-hour standard (8-hour average CO > 9.0 ppm) were not exceeded. The federal and state 1-hour standards (35 ppm and 20 ppm) were not exceeded either.

[b] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.

[c] Concentrations are the maximum value observed at any station in the SCAB. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the SCAB.

Ozone

Ozone (O_3), a colorless gas with a sharp odor, is a highly reactive form of oxygen. High ozone concentrations exist naturally in the stratosphere. Some mixing of stratospheric ozone downward through the troposphere to the earth's surface does occur; however, the extent of ozone transport is limited. At the earth's surface in sites remote from urban areas ozone concentrations are normally very low (e.g., from 0.03 ppm to 0.05 ppm).

Ozone is highly reactive with organic materials, causing damage to living cells and ambient ozone concentrations in the Basin are frequently sufficient to cause health effects. Ozone enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, and reduces the respiratory system's ability to remove inhaled particles and fight infection. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities. Elevated ozone levels are also associated with increased school absences. Ozone exposure under exercising conditions is known to increase the severity of the above mentioned observed responses. Animal studies suggest that exposures to a combination of pollutants which include ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure

diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.[11,12,13]

As summarized in Table 3.1-3, ozone concentrations were measured at 28 locations in the SCAB and the Coachella Valley portion of the SSAB in 2019. All areas within South Coast AQMD's jurisdiction are in nonattainment of both the federal and state 1-hour and 8-hour ozone standards. Maximum ozone concentrations for all areas monitored were below the stage 1 episode level (0.20 ppm) and below the health advisory level (0.15 ppm). Most areas within South Coast AQMD's jurisdiction continue to exceed the state and federal ozone standards. Ozone is formed when heat and sunlight cause chemical reactions between NOx and VOCs. Ozone formation is dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. The 2016 AQMP measures to reduce ozone include stationary and mobile source NOx reduction strategies, supplemented by limited, strategic VOC emission reductions.

Table 3.1-3
South Coast AQMD – 2019 Air Quality Data – O_3

OZONE (O_3)										
						No. Days Standard Exceeded				
						Federal			Federal	
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. in ppm 1-hr	Max. Conc. in Ppm 8-hr	4th High Conc. ppm 8-hr	Old > 0.124 ppm 1-hr	Current > 0.070 ppm 8-hr*	2008 > 0.075 ppm 8-hr	Current > 0.09 ppm 1-hr	Current > 0.070 ppm 8-hr
LOS ANGELES COUNTY										
1	Central LA	364	0.085	0.080	0.065	0	2	1	0	2
2	Northwest Coastal LA County	360	0.086	0.075	0.064	0	1	0	0	1
3	Southwest Coastal LA County	365	0.082	0.067	0.060	0	0	0	0	0
4	South Coastal LA County 1	--	--	--	--	--	--	--	--	--
4	South Coastal LA County 2	--	--	--	--	--	--	--	--	--
4	South Coastal LA County 3	343	0.074	0.064	0.055	0	0	0	0	0
4	I-710 Near Road[##]	--	--	--	--	--	--	--	--	--
6	West San Fernando Valley	267	0.101	0.087	0.076	0	6	4	1	6
8	West San Gabriel Valley	302	0.120	0.098	0.086	0	12	8	4	12
9	East San Gabriel Valley 1	362	0.123	0.094	0.090	0	39	21	34	39
9	East San Gabriel Valley 2	356	0.130	0.102	0.097	1	58	38	46	58
10	Pomona/Walnut Valley	365	0.096	0.083	0.077	0	12	4	1	12
11	South San Gabriel Valley	364	0.108	0.091	0.073	0	7	3	5	7
12	South Central LA County	363	0.100	0.079	0.064	0	1	1	1	1
13	Santa Clarita Valley	359	0.128	0.106	0.101	1	56	42	34	56

[11] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants. Accessed December 10, 2020 https://www.epa.gov/criteria-air-pollutants.

[12] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf

[13] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document

Table 3.1-3
South Coast AQMD – 2019 Air Quality Data – O_3

OZONE (O_3)										
						No. Days Standard Exceeded				
						Federal			Federal	
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. in ppm 1-hr	Max. Conc. in Ppm 8-hr	4th High Conc. ppm 8-hr	Old > 0.124 ppm 1-hr	Current > 0.070 ppm 8-hr*	2008 > 0.075 ppm 8-hr	Current > 0.09 ppm 1-hr	Current > 0.070 ppm 8-hr
ORANGE COUNTY										
16	North Orange County	364	0.107	0.094	0.074	0	6	3	2	6
17	Central Orange County	365	0.096	0.082	0.064	0	1	1	1	1
17	I-5 Near Road##	--	--	--	--	--	--	--	--	--
18	North Coastal Orange County	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	365	0.106	0.087	0.082	0	11	7	3	11
RIVERSIDE COUNTY										
22	Corona/Norco Area	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	360	0.123	0.096	0.092	0	59	37	24	59
23	Metropolitan Riverside County 3	365	0.131	0.099	0.096	2	64	42	26	64
24	Perris Valley	365	0.118	0.095	0.090	0	64	38	26	64
25	Lake Elsinore	365	0.108	0.089	0.079	0	28	11	4	28
26	Temecula Valley	365	0.091	0.079	0.074	0	6	2	0	6
29	San Gorgonio Pass	365	0.119	0.096	0.093	0	59	37	24	59
30	Coachella Valley 1**	364	0.100	0.084	0.083	0	34	17	5	34
30	Coachella Valley 2**	365	0.103	0.087	0.083	0	43	15	4	43
30	Coachella Valley 3**	--	--	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY										
32	Northwest San Bernardino Valley	338	0.131	0.107	0.097	1	52	34	31	52
33	I-10 Near Road##	--	--	--	--	--	--	--	--	--
33	CA-60 Near Road##	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	364	0.124	0.109	0.097	0	67	46	41	67
34	Central San Bernardino Valley 2	354	0.127	0.114	0.103	2	96	73	63	96
35	East San Bernardino Valley	364	0.137	0.117	0.106	8	109	88	73	109
37	Central San Bernardino Mountains	365	0.129	0.112	0.106	2	99	79	53	99
38	East San Bernardino Mountains	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM[a]			**0.137**	**0.117**	**0.106**	**8**	**109**	**88**	**73**	**109**
SOUTH COAST AIR BASIN[b]			**0.137**	**0.117**	**0.106**	**10**	**126**	**101**	**82**	**126**

ppm = parts per million of air, by volume
-- = Pollutant not monitored
*Incomplete data
**Salton Sea Air Basin
= Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO_2 are operating near the following freeways: I-1, I-10, CA-60, and I-710.
a District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.
b Concentrations are the maximum value observed at any station in the SCAB. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the SCAB.

Nitrogen Dioxide

NO_2 is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from nitrogen (N_2) and oxygen (O_2) in air under conditions of high temperature and pressure which are generally present during combustion of fuels; NO reacts rapidly with the oxygen in air to form NO_2. NO_2 is responsible for the brownish tinge of polluted air. The two gases, NO and NO_2, are referred to collectively as NOx. In the presence of sunlight, NO_2 reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form ozone, via a complex series of chemical

reactions involving hydrocarbons. Nitrogen dioxide may also react to form nitric acid (HNO_3) which reacts further to form nitrates, components of PM2.5 and PM10.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these subgroups. More recent studies have found associations between NO_2 exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms, and emergency room asthma visits. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2.[14, 15, 16]

As summarized in Table 3.1-4, NO_2 concentrations were measured at 26 locations in 2019. The South Coast Air Basin is in attainment for NO_2. No area of the SCAB or SSAB exceeded the federal or state standards for NO_2 in 2019. The higher relative concentrations in the Los Angeles area are indicative of the concentrated emission sources, especially heavy-duty vehicles. NO_x emission reductions continue to be necessary because it is a precursor to both ozone and PM (PM2.5 and PM10) concentrations.[17] As noted above, all areas within South Coast AQMD's jurisdiction are in nonattainment of both the federal and state 1-hour and 8-hour ozone standards. Furthermore, as noted and further discussed below, areas within South Coast AQMD's jurisdiction are in nonattainment under the various state and/or federal PM10 and PM2.5 standards.

With the revised NO_2 federal standard in 2010, near-road NO_2 measurements were required to be phased in for larger cities. The four near-road monitoring stations are: 1) I-5 near-road, located in Orange County near Anaheim; 2) I-710 near-road, located at Long Beach Blvd. in Los Angeles County near Compton and Long Beach; 3) State Route 60 (CA-60) near-road, located west of Vineyard Avenue near the San Bernardino/Riverside County border near Ontario, Mira Loma, and Upland; and 4) I-10 near-road, located near Etiwanda Avenue in San Bernardino County near Ontario, Rancho Cucamonga, and Fontana.

[14] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants. Accessed December 10, 2020 https://www.epa.gov/criteria-air-pollutants.

[15] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf

[16] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document

[17] South Coast AQMD. 2017. Final 2016 Air Quality Management Plan. Chapter 4. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/chapter4.pdf?sfvrsn=4

Table 3.1-4
South Coast AQMD – 2019 Air Quality Data NO_2

NITROGEN DIOXIDE (NO_2)[a]					
Source Receptor Area No.	**Location of Air Monitoring Station**	**No. Days of Data**	**Max. Conc. in ppb 1-hour**	**98th Percentile Conc. in ppb 1-hour**	**Annual Average AAM Conc. ppb**
LOS ANGELES COUNTY					
1	Central LA	365	69.7	55.5	17.7
2	Northwest Coastal LA County	365	48.8	43.0	9.7
3	Southwest Coastal LA County	363	56.6	48.9	9.5
4	South Coastal LA County 1	--	--	--	--
4	South Coastal LA County 2	--	--	--	--
4	South Coastal LA County 3	255	71.8	56.3	16.2
4	I-710 Near Road[##]	365	97.7	78.3	22.8
6	West San Fernando Valley	365	64.4	43.8	10.7
8	West San Gabriel Valley	361	59.1	50.6	13.2
9	East San Gabriel Valley 1	365	59.7	49.8	13.7
9	East San Gabriel Valley 2	360	52.9	36.5	8.6
10	Pomona/Walnut Valley	365	64.4	57.8	17.9
11	South San Gabriel Valley	364	61.8	55.1	17.6
12	South Central LA County	363	70.0	52.8	14.1
13	Santa Clarita Valley	357	46.3	35.3	9.1
ORANGE COUNTY					
16	North Orange County	362	59.4	44.5	12.1
17	Central Orange County	365	59.4	49.2	12.7
17	I-5 Near Road[##]	365	59.4	50.4	19.2
18	North Coastal Orange County	--	--	--	--
19	Saddleback Valley	--	--	--	--
RIVERSIDE COUNTY					
22	Corona/Norco Area	--	--	--	--
23	Metropolitan Riverside County 1	365	56.0	52.8	13.5
23	Metropolitan Riverside County 3	346	56.0	49.4	12.2
24	Perris Valley	--	--	--	--
25	Lake Elsinore	365	38.0	33.3	6.8
26	Temecula Valley	--	--	--	--
29	San Gorgonio Pass	364	56.0	43.3	7.5
30	Coachella Valley 1**	361	41.4	32.2	7.3
30	Coachella Valley 2**	--	--	--	--
30	Coachella Valley 3**	--	--	--	--
SAN BERNARDINO COUNTY					
32	Northwest San Bernardino Valley	328	57.9	46.4	14.0
33	I-10 Near Road[##]	346	86.3	70.5	27.6
33	CA-60 Near Road[##]	364	87.7	73.9	29.0
34	Central San Bernardino Valley 1	365	76.1	57.7	17.2
34	Central San Bernardino Valley 2	352	59.3	46.3	14.3
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--

Table 3.1-4
South Coast AQMD – 2019 Air Quality Data NO_2

NITROGEN DIOXIDE (NO_2)[a]					
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. in ppb 1-hour	98th Percentile Conc. in ppb 1-hour	Annual Average AAM Conc. ppb
DISTRICT MAXIMUM[b]			**97.7**	**78.3**	**29.0**
SOUTH COAST AIR BASIN[c]			**97.7**	**78.3**	**29.0**

ppb= parts per billion
AAM = Annual Arithmetic Mean
-- Pollutant not monitored
*Incomplete data
**Salton Sea Air Basin
Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO_2 are operating near the following freeways: I-1, I-10, CA-60, and I-710.

[a] The NO_2 federal 1-hour standard is 100 ppb and the annual standard is annual arithmetic mean NO_2 > 0.0534 ppm (53.4 ppb). The state 1-hour and annual standards are 0.18 ppm (180 ppb) and 0.030 ppm (30 ppb).

[b] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.

[c] Concentrations are the maximum value observed at any station in the SCAB. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the SCAB.

Sulfur Dioxide

SO_2 is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid (H_2SO_4), which contributes to acid precipitation, and sulfates, which are components of PM10 and PM2.5. Most of the SO_2 emitted into the atmosphere is produced by burning sulfur-containing fuels.

Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO_2. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute higher exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor. .[18, 19 20]

Historical measurements showed concentrations to be well below standards and monitoring was previously discontinued at those stations. As summarized in Table 3.1-5, SO_2 concentrations were measured at five locations in 2019. All areas within South Coast AQMD's jurisdiction are in attainment for the state and federal 1-hour SO_2 standards. No exceedances of federal or state standards for sulfur dioxide occurred in 2019 at any of the five monitoring locations. Although

[18] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants. Accessed December 10, 2020 https://www.epa.gov/criteria-air-pollutants.

[19] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf

[20] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document

SO_2 concentrations remain well below the standards, SO_2 is a precursor to sulfate, which is a component of fine particulate matter, PM10, and PM2.5.

Table 3.1-5
South Coast AQMD – 2019 Air Quality Data – SO_2

SULFUR DIOXIDE (SO_2)[a]				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Maximum Conc. ppb, 1-hour	99th Percentile Conc. ppb, 1-hour
LOS ANGELES COUNTY				
1	Central LA	365	10.0	2.3
2	Northwest Coastal LA County	--	--	--
3	Southwest Coastal LA County	365	8.2	3.7
4	South Coastal LA County 1	--	--	--
4	South Coastal LA County 2	--	--	--
4	South Coastal LA County 3	344	8.9	7.7
4	I-710 Near Road[##]	--	--	--
6	West San Fernando Valley	--	--	--
8	West San Gabriel Valley	--	--	--
9	East San Gabriel Valley 1	--	--	--
9	East San Gabriel Valley 2	--	--	--
10	Pomona/Walnut Valley	--	--	--
11	South San Gabriel Valley	--	--	--
12	South Central LA County	--	--	--
13	Santa Clarita Valley	--	--	--
ORANGE COUNTY				
16	North Orange County	--	--	--
17	Central Orange County	--	--	--
17	I-5 Near Road[##]	--	--	--
18	North Coastal Orange County	--	--	--
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Corona/Norco Area	--	--	--
23	Metropolitan Riverside County 1	365	1.8	1.4
23	Metropolitan Riverside County 3	--	--	--
24	Perris Valley	--	--	--
25	Lake Elsinore	--	--	--
26	Temecula Valley	--	--	--
29	San Gorgonio Pass	--	--	--
30	Coachella Valley 1**	--	--	--
30	Coachella Valley 2**	--	--	--
30	Coachella Valley 3**	--	--	--
SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	--	--	--
33	I-10 Near Road[##]	--	--	--
33	CA-60 Near Road[##]	--	--	--
34	Central San Bernardino Valley 1	358	2.4	1.9
34	Central San Bernardino Valley 2	--	--	--
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM[b]			**10.0**	**7.7**

Table 3.1-5
South Coast AQMD – 2019 Air Quality Data – SO_2

SULFUR DIOXIDE (SO_2)[a]				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Maximum Conc. ppb, 1-hour	99th Percentile Conc. ppb, 1-hour
SOUTH COAST AIR BASIN[c]			10.0	7.7

ppb= parts per billion *Incomplete data
-- = Pollutant not monitored ** Salton Sea Air Basin
= Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO_2 are operating near the following freeways: I-1, I-10, CA-60, and I-710.
[a] The federal SO2 1-hour standard is 75 ppb (0.075 ppm). The state standards are 1-hour average SO2 > 0.25 ppm (250 ppb) and 24-hour average SO2 > 0.04 ppm (40 ppb).
[b] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.
[c] Concentrations are the maximum value observed at any station in the SCAB. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the SCAB.

Particulate Matter (PM10 and PM2.5)

Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. Respirable particles (particulate matter less than about 10 micrometers in diameter [PM10]) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis, and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of particulate matter.

A consistent correlation between elevated ambient fine particulate matter (PM2.5) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by PM2.5 and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in PM2.5 concentrations have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences, to a decrease in respiratory function in normal children, and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to particulate matter. In addition to children, the elderly, and people with preexisting respiratory and/or cardiovascular disease appear to be more susceptible to the effects of PM10 and PM2.5.[21, 22 23]

As summarized in Table 3.1-6, PM10 concentrations were measured at 22 locations in 2019. The SCAB has remained in attainment of the federal 24-hour PM10 standard since 2006 and it was not exceeded in 2019. In addition, South Coast AQMD's jurisdiction also covers parts of the MDAB and SSAB, which are both in nonattainment of the federal 24-hour PM10 standard. All areas within South Coast AQMD's jurisdiction are in nonattainment of the state 24-hour PM10 standard, which was exceeded at several of the monitoring stations in 2019. The federal annual PM10 standard has

[21] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants. Accessed December 10, 2020 https://www.epa.gov/criteria-air-pollutants.
[22] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf
[23] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document

been revoked. All areas within South Coast AQMD's jurisdiction are in nonattainment of the state annual PM10 standard, which was exceeded at most stations in each county in the SCAB and in the Coachella Valley in 2019.

As summarized in Table 3.1-7, PM2.5 concentrations were measured at 19 locations throughout the Basin in 2019. The Coachella Valley is in attainment of both the federal annual and 24-hour PM2.5 standards. All areas within the South Coast Air Basin are in nonattainment of the federal 24-hour and annual PM2.5 standards. All areas within South Coast AQMD's jurisdiction are in nonattainment of the state annual PM2.5 standard. In 2019, the monitored PM2.5 concentrations exceeded the federal 24-hour and annual PM2.5 standards and the state annual PM2.5 standard.

Table 3.1-6
South Coast AQMD – 2019 Air Quality Data –PM10

SUSPENDED PARTICULATE MATTER PM10[a]						
				No. (%) Samples Exceeding Standard		
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. µg/m³, 24-hour	Federal > 150 µg/m³, 24-hour	State > 50 µg/m³, 24-hour	Annual Average AAM Conc.[b] µg/m³
LOS ANGELES COUNTY						
1	Central LA	9	62	0	3 (6%)	25.5
2	Northwest Coastal LA County	--	--	--	--	--
3	Southwest Coastal LA County	59	62	0	2 (3%)	19.2
4	South Coastal LA County 1	--	--	--	--	--
4	South Coastal LA County 2	60	72	0	2 (3%)	21.0
4	South Coastal LA County 3	58	74	0	3 (5%)	26.9
4	I-710 Near Road[##]	--	--	--	--	--
6	West San Fernando Valley	--	--	--	--	--
8	West San Gabriel Valley	--	--	--	--	--
9	East San Gabriel Valley 1	61	82	0	4 (7%)	28.1
9	East San Gabriel Valley 2	308	97	0	3 (1%)	20.8
10	Pomona/Walnut Valley	--	--	--	--	--
11	South San Gabriel Valley	--	--	--	--	--
12	South Central LA County	--	--	--	--	--
13	Santa Clarita Valley	60	62	0	1 (2%)	18.4
ORANGE COUNTY						
16	North Orange County	--	--	--	--	--
17	Central Orange County	364	127	0	13 (4%)	21.9
17	I-5 Near Road[##]	--	--	--	--	--
18	North Coastal Orange County	--	--	--	--	--
19	Saddleback Valley	60	45	0	0	16.6
RIVERSIDE COUNTY						
22	Corona/Norco Area	--	--	--	--	--
23	Metropolitan Riverside County 1	120	99	0	21 (18%)	34.4
23	Metropolitan Riverside County 3	362	143	0	130 (36%)	43.1
24	Perris Valley	61	97	0	4 (7%)	25.3
25	Lake Elsinore	301	93	0	5 (2%)	18.7
26	Temecula Valley	--	--	--	--	--
29	San Gorgonio Pass	56	63	0	2 (4%)	17.9
30	Coachella Valley 1**	346	75	0	5 (1%)	19.5
30	Coachella Valley 2**	361	141	0	27 (7%)	27.8
30	Coachella Valley 3**	324	154	0	44 (14%)	33.3

Table 3.1-6
South Coast AQMD – 2019 Air Quality Data –PM10

SUSPENDED PARTICULATE MATTER PM10[a]						
				No. (%) Samples Exceeding Standard		
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. µg/m³, 24-hour	Federal > 150 µg/m³, 24-hour	State > 50 µg/m³, 24-hour	Annual Average AAM Conc.[b] µg/m³
SAN BERNARDINO COUNTY						
32	Northwest San Bernardino Valley	306	125	0	7 (2%)	28.1
33	I-10 Near Road##	--	--	--	--	--
33	CA-60 Near Road##	--	--	--	--	--
34	Central San Bernardino Valley 1	61	88	0	12 (20%)	34.8
34	Central San Bernardino Valley 2	269	112	0	36 (13%)	29.9
35	East San Bernardino Valley	59	44	0	0	21.2
37	Central San Bernardino Mountains	54	38	0	0	16.1
38	East San Bernardino Mountains	--	--	--	--	--
DISTRICT MAXIMUM[c]			**154**	**0**	**130**	**43.1**
SOUTH COAST AIR BASIN[d]			**143**	**0**	**137**	**43.1**

µg/m³ = micrograms per cubic meter of air
AAM = Annual Arithmetic Mean
-- Pollutant not monitored
*Incomplete Data
**Salton Sea Air Basin
Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO_2 are operating near the following freeways: I-1, I-10, CA-60, and I-710.
\+ High PM10 (≥ 155 µg/m³) data recorded in Coachella Valley (due to high winds) and the Basin (due to Independence Day fireworks) are excluded in accordance with the U.S. EPA Exceptional Event Rule.

[a] PM10 statistics listed above are based on combined Federal Reference Method (FRM) and Federal Equivalent Method (FEM) data.
[b] State annual average (AAM) PM10 standard is > 20 µg/m3. Federal annual PM10 standard (AAM > 50 µg/m3) was revoked in 2006.
[c] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.
[d] Concentrations are the maximum value observed at any station in the SCAB. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the SCAB.

Table 3.1-7
South Coast AQMD – Air Quality Data – PM2.5

SUSPENDED PARTICULATE MATTER PM2.5[a]						
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. µg/m³, 24-hour	98th Percentile Conc. in µg/m³ 24-hr	No. (%) Samples Exceeding Federal Std > 35 µg/m³, 24-hour	Annual Average AAM Conc.[b)] µg/m³
LOS ANGELES COUNTY						
1	Central LA	360	43.50	28.3	1 (0.3%)	10.85
2	Northwest Coastal LA County	--	--	--	--	--
3	Southwest Coastal LA County	--	--	--	--	--
4	South Coastal LA County 1	159	28	20.7	0	9.23
4	South Coastal LA County 2	354	30.6	23.20	0	9.22
4	South Coastal LA County 3	--	--	--	--	--
4	I-710 Near Road##	365	36.7	26.4	1 (0.3%)	10.99
6	West San Fernando Valley	118	30	26.3	0	9.16
8	West San Gabriel Valley	118	30.9	24.6	0	8.90
9	East San Gabriel Valley 1	120	28.3	21.2	0	9.18
9	East San Gabriel Valley 2	--	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--	--
11	South San Gabriel Valley	119	29.6	24.4	0	10.34
12	South Central LA County	303	39.5	26.6	1 (0.3%)	10.87
13	Santa Clarita Valley	--	--	--	--	--

Table 3.1-7
South Coast AQMD – Air Quality Data – PM2.5

SUSPENDED PARTICULATE MATTER PM2.5[a]						
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. µg/m³, 24-hour	98th Percentile Conc. in µg/m³ 24-hr	No. (%) Samples Exceeding Federal Std > 35 µg/m³, 24-hour	Annual Average AAM Conc.[b] µg/m³
ORANGE COUNTY						
16	North Orange County	--	--	--	--	--
17	Central Orange County	346	36.1	23.3	3 (0.9%)	9.32
17	I-5 Near Road##	--	--	--	--	--
18	North Coastal Orange County	--	--	--	--	--
19	Saddleback Valley	111	20.8	14.7	0	7.11
RIVERSIDE COUNTY						
22	Corona/Norco Area	--	--	--	--	--
23	Metropolitan Riverside County 1	352	46.7	31.8	4 (1.1%)	11.13
23	Metropolitan Riverside County 3	356	46.7	36.2	9 (2.5%)	12.53
24	Perris Valley	--	--	--	--	--
25	Lake Elsinore	--	--	--	--	--
26	Temecula Valley	--	--	--	--	--
29	San Gorgonio Pass	--	--	--	--	--
30	Coachella Valley 1**	119	15.5	12.4	0	6.05
30	Coachella Valley 2**	118	15	13.5	0	7.37
30	Coachella Valley 3**	--	--	--	--	--
SAN BERNARDINO COUNTY						
32	Northwest San Bernardino Valley	--	--	--	--	--
33	I-10 Near Road##	--	--	--	--	--
33	CA-60 Near Road##	364	41.3	30.7	5 (1.4%)	12.7
34	Central San Bernardino Valley 1	114	46.5	29.7	2 (1.8%)	10.84
34	Central San Bernardino Valley 2	97	34.8	33.0	0	10.06
35	East San Bernardino Valley	--	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--	--
38	East San Bernardino Mountains	46	31	31.0	0	5.94
DISTRICT MAXIMUM[c]			**46.7**	**36.2**	**9**	**12.70**
SOUTH COAST AIR BASIN[d]			**46.7**	**36.2**	**10**	**12.70**

µg/m³ = micrograms per cubic meter of air
AAM = Annual Arithmetic Mean
-- Pollutant not monitored
*Incomplete Data
**Salton Sea Air Basin
Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO2 are operating near the following freeways: I-1, I-10, CA-60, and I-710
\+ High PM10 (≥ 155 µg/m³) data recorded in Coachella Valley (due to high winds) and the Basin (due to Independence Day fireworks) are excluded in accordance with the U.S. EPA Exceptional Event Rule.

[a] PM2.5 statistics listed above are for the FRM data only. FEM PM2.5 continuous monitoring instruments were operated at some of the above locations for real-time alerts and forecasting only.
[b] Both Federal and State standards are annual average (AAM) > 12.0 µg/m3.
[c] District Maximum is the maximum value calculated at any station in the South Coast AQMD jurisdiction.
[d] Concentrations are the maximum value observed at any station in the SCAB. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the SCAB.

On December 14, 2012, a requirement was added to monitor near the most heavily trafficked roadways in large urban areas. Particle pollution is expected to be higher along these roadways as a result of direct emissions from cars and heavy-duty diesel trucks and buses. South Coast AQMD installed the two required PM2.5 monitors at locations selected based upon the heavy-duty diesel traffic, which are: 1) I-710 Near Road Monitoring Station, located at Long Beach Blvd. in Los Angeles County near Compton and Long Beach; and 2) CA State Route 60 (CA-60) Near Road

Monitoring Station, located west of Vineyard Avenue near the San Bernardino/Riverside County border near Ontario, Mira Loma, and Upland.[24]

Lead

Under the federal CAA, lead is classified as a ˈcriteria pollutant.ˈ Lead has observed adverse health effects at ambient concentrations. Lead is also deemed a carcinogenic toxic air contaminant (TAC) by the Office of Environmental Health Hazard Assessment (OEHHA). Lead in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out of leaded gasoline, there was a dramatic reduction in atmospheric lead in the Basin over the past three decades. In fact, there were no violations of the lead standards at South Coast AQMDˈs regular air monitoring stations from 1982 to 2007, as a result of removal of lead from gasoline.

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early-age environmental exposure, and elevated blood lead levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland), and osteoporosis (breakdown of bone tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers.[25, 26 27]

As summarized in Table 3.1-8, South Coast AQMD monitored lead concentrations at seven monitoring stations in 2019. The SCAB is currently in nonattainment for lead. The MDAB and SSAB are both in attainment for lead. The South Coast AQMD has petitioned U.S. EPA for a re-designation to attainment for the federal lead standard for the Los Angeles County nonattainment area. Stringent South Coast AQMD rules governing lead-producing sources will help to ensure that there are no future violations of the federal standard. At the time of this report, South Coast AQMD has not yet received a response from U.S. EPA regarding the petition. The current lead concentrations in Los Angeles County are below the federal lead standard. Further, the state standards for lead were not exceeded in any areas under the jurisdiction of the South Coast AQMD in 2019.

[24] More information on South Coast AQMDˈs near-road monitoring can be found at: https://www.aqmd.gov/home/air-quality/air-quality-studies/air-quality-monitoring-studies/near-road-air-network

[25] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants. Accessed December 10, 2020 https://www.epa.gov/criteria-air-pollutants.

[26] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf

[27] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document

Table 3.1-8
South Coast AQMD – 2019 Air Quality Data – Lead and Sulfates

Location		LEAD[h]		SULFATES[i]	
Source Receptor Area No.	Location of Air Monitoring Station	Max. Monthly Average Conc. [m] µg/m³	Max. 3-Month Rolling Average [m] µg/m³	No. Days of Data	Max. Conc. µg/m³, 24-hour
LOS ANGELES COUNTY					
1	Central LA	0.012	0.010	55	5.1
2	Northwest Coastal LA County	--	--	--	--
3	Southwest Coastal LA County	0.004	0.004	--	--
4	South Coastal LA County 1	--	--	--	--
4	South Coastal LA County 2	0.006	0.005	--	--
4	South Coastal LA County 3	--	--	59	5.8
4	I-710 Near Road##	--	--	--	--
6	West San Fernando Valley	--	--	--	--
8	West San Gabriel Valley	--	--	--	--
9	East San Gabriel Valley 1	--	--	61	6.2
9	East San Gabriel Valley 2	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--
11	South San Gabriel Valley	0.009	0.007	--	--
12	South Central LA County	0.009	0.007	--	--
13	Santa Clarita Valley	--	--	--	--
ORANGE COUNTY					
16	North Orange County	--	--	--	--
17	Central Orange County	--	--	60	5.1
17	I-5 Near Road##	--	--	--	--
18	North Coastal Orange County	--	--	--	--
19	Saddleback Valley	--	--	--	--
RIVERSIDE COUNTY					
22	Corona/Norco Area	--	--	--	--
23	Metropolitan Riverside County 1	0.008	0.007	121	14.6
23	Metropolitan Riverside County 3	--	--	--	--
24	Perris Valley	--	--	--	--
25	Lake Elsinore	--	--	--	--
26	Temecula Valley	--	--	--	--
29	San Gorgonio Pass	--	--	--	--
30	Coachella Valley 1**	--	--	--	--
30	Coachella Valley 2**	--	--	119	3.2
30	Coachella Valley 3**	--	--	--	--
SAN BERNARDINO COUNTY					
32	Northwest San Bernardino Valley	--	--	--	--
33	I-10 Near Road##	--	--	--	--
33	CA-60 Near Road##	--	--	--	--
34	Central San Bernardino Valley 1	--	--	62	5.2
34	Central San Bernardino Valley 2	0.013	0.011	--	--
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--
DISTRICT MAXIMUM		**0.013**	**0.011**		**14.6**
South Coast AIR BASIN		**0.013**	**0.011**		**14.6**

µg/m³ = micrograms per cubic meter of air
-- Pollutant not monitored
* Incomplete Data
** Salton Sea Air Basin
Four near-road sites measuring one or more of the pollutants PM2.5, CO, and/or NO_2 are operating near the following freeways: I-1, I-10, CA-60, and I-710.

\+ High PM10 (≥ 155 µg/m³) data recorded in Coachella Valley (due to high winds) and the Basin (due to Independence Day fireworks) are excluded in accordance with the U.S. EPA Exceptional Event Rule.
++ Higher lead concentrations were recorded at near-source monitoring sites immediately downwind of stationary lead sources. Maximum monthly and 3-month rolling averages recorded were 0.88 µ/m³ and 0.06 µ/m³.

h Federal lead standard is 3-months rolling average > 0.15 µg/m³; state standard is monthly average ≥ 1.5 µg/m³. Lead standards were not exceeded.

i State sulfate standard is 24-hour ≥ 25 µg/m³. There is no federal standard for sulfate. Sulfate data is not available at this time.

Sulfates

Sulfates are chemical compounds which contain the sulfate ion and are part of the mixture of solid materials which make up PM10. Most of the sulfates in the atmosphere are produced by oxidation of SO_2. Oxidation of sulfur dioxide yields sulfur trioxide (SO_3), which reacts with water to form sulfuric acid, which then contributes to acid deposition. The reaction of sulfuric acid with basic substances such as ammonia yields sulfates, a component of PM10 and PM2.5.

Most of the health effects associated with fine particles and SO_2 at ambient levels are also associated with sulfates. Thus, both mortality and morbidity effects have been observed with an increase in ambient sulfate concentrations. However, efforts to separate the effects of sulfates from the effects of other pollutants have generally not been successful.[28, 29 30]

As summarized in Table 3.1-8, South Coast AQMD monitored sulfate at seven monitoring stations in 2019. The state 24-hour sulfate standard (25 $\mu g/m^3$) was not exceeded in the South Coast Air Basin, which is in attainment for sulfate. The MDAB and SSAB are also in attainment for sulfate. There are no federal sulfate standards.

Vinyl Chloride

Vinyl chloride is a colorless, flammable gas at ambient temperature and pressure. It is also highly toxic and is classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as A1 (confirmed carcinogen in humans) and by the International Agency for Research on Cancer (IARC) as 1 (known to be a human carcinogen).[31] At room temperature, vinyl chloride is a gas with a sickly-sweet odor that is easily condensed. However, it is stored as a liquid. Due to the hazardous nature of vinyl chloride to human health there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product. It is an important industrial chemical chiefly used to produce polymer polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. Billions of pounds of PVC are sold on the global market each year. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles.

In the past, vinyl chloride emissions have been associated primarily with sources such as landfills. Risks from exposure to vinyl chloride are considered to be localized impacts rather than regional impacts. Because landfills in the South Coast AQMD are subject to Rule 1150.1 – Control of Gaseous Emissions from Municipal Solid Waste Landfills, which contain stringent requirements for landfill gas collection and control, potential vinyl chloride emissions are expected to be below the level of detection. Therefore, South Coast AQMD does not monitor for vinyl chloride at its monitoring stations.

[28] U.S. Environmental Protection Agency. 2020. Criteria Air Pollutants. Accessed December 10, 2020 https://www.epa.gov/criteria-air-pollutants.

[29] South Coast AQMD. 2015. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf

[30] South Coast AQMD. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. https://www.aqmd.gov/home/research/guidelines/planning-guidance/guidance-document

[31] International Agency for Research on Cancer. 2020 (accessed). Vinyl Chloride Exposure Data. Accessed December 8, 2020.

Volatile Organic Compounds

It should be noted that there are no state or federal standards for VOCs because they are not classified as criteria pollutants. VOCs are regulated, however, because VOCs are a precursor to the formation of ozone in the atmosphere. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM10 and lower visibility levels.

Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, one hydrocarbon component of VOC emissions, is known to be a human carcinogen.

Non-Criteria Pollutants

Although South Coast AQMD's primary mandate is attaining the state and federal standards for criteria pollutants within their jurisdiction, South Coast AQMD also has a general responsibility pursuant to Health and Safety Code Section 41700 to control emissions of air contaminants and prevent endangerment to public health. Additionally, state law requires South Coast AQMD to implement airborne toxic control measures (ATCM) adopted by CARB and to implement the Air Toxics 'Hot Spots' Act. As a result, South Coast AQMD has regulated pollutants other than criteria pollutants such as TACs, greenhouse gases (GHGs), and stratospheric ozone depleting compounds. South Coast AQMD has developed a number of rules to control non-criteria pollutants from both new and existing sources. These rules originated through state directives, CAA requirements, or the South Coast AQMD rulemaking process. In addition to promulgating non-criteria pollutant rules, South Coast AQMD has been evaluating control measures in the 2016 AQMP as well as existing rules to determine whether or not they would affect, either positively or negatively, emissions of non-criteria pollutants. For example, rules in which VOC components of coating materials are replaced by a non-photochemically reactive chlorinated substance would reduce the impacts resulting from ozone formation, but could increase emissions of toxic compounds or other substances that may have adverse impacts on human health.

Carcinogenic Health Risks from TACs: One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no 'safe' level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of causing cancer. It is currently estimated that about one in four deaths in the United States is attributable to cancer. The proportion of cancer deaths attributable to air pollution has not been estimated using epidemiological methods.

Non-Cancer Health Risks from TACs: Unlike carcinogens, for most non-carcinogens it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. CalEPA's OEHHA develops Reference Exposure Levels (RELs) for TACs which are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The non-cancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the hazard index (HI).

Multiple Air Toxics Exposure Study (MATES): In 1986, South Coast AQMD conducted the first MATES report to determine the risks associated with major airborne carcinogens in the SCAB. The most current version (MATES IV), includes a monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize risk across the SCAB. The study focuses on the carcinogenic risk from exposure to air toxics but does not estimate mortality or other health effects from particulate exposures. An additional focus of MATES IV is the inclusion of measurements of ultrafine particle concentrations. MATES IV incorporates the updated health risk assessment methodology from OEHHA. Compared to previous studies of air toxics in the SCAB, this study found decreasing air toxics exposure, with the estimated Basin-wide population-weighted risk down by about 57 percent from the analysis done for the MATES III time period. The ambient air toxics data from the ten fixed monitoring locations also demonstrated a similar reduction in air toxic levels and risks. On average, diesel particulate contributes about 68 percent of the total air toxics risk. This is a lower portion of the overall risk compared to the MATES III estimates of about 84 percent.

Regulatory Requirements Affecting Mobile Sources Associated with Warehouses

There are many existing and upcoming air quality regulations at the state and federal level that focus on emissions from the mobile sources associated with warehouses. These can broadly be placed into three categories. First are regulations that aim to reduce emissions at the tailpipe of a vehicle, commonly called engine standards. These regulations typically focus on requirements for new vehicles. Second are regulations that aim to replace older vehicles with newer vehicles with cleaner technologies, often called fleet rules. Third are regulations that focus on air quality impacts from facilities. These regulations look at the activities associated with a facility and aim to reduce air quality impacts beyond what is already required by engine standards or fleet rules. Key examples of these three types of regulations that address air quality impacts from warehouses are presented in Figures 3.1-1a and 3.1-1b as follows.

Figure 3.1-1a
Key Existing Regulations that Address Air Quality Impacts from Warehouses

Engine Standards	Fleet Rules	Facility-Based Rules
•U.S. EPA Heavy Duty Highway Engine Standards[1]	•CARB Truck and Bus Rule[9]	•CEQA (for new projects)[13]
•U.S. EPA Phase 2 GHG Standards[2]	•CARB Transportation Refrigeration Unit (TRU) Air Toxics Control Measure (ATCM)[10]	•South Coast AQMD Rule 2449 ("SOON" Rule for Off-Road Fleets)[14]
•U.S. EPA Non-Road Diesel Engines and Fuel Standards[3]	•CARB In-Use Off-Road Diesel Rule[11]	•South Coast AQMD Rule 2202 (Employee Commute Reduction)[15]
•U.S. EPA Non-Road Large Spark Ignition Engines Standards[4]	•CARB Large Spark Ignition (LSI) Rule[12]	
•CARB Phase 2 GHG Standards[5]		
•CARB Advanced Clean Cars Program[6]		
•CARB Optional Low NOx Standards[7]		
•CARB Heavy Duty Low NOx Omnibus Rule[8]		

[1] United States Environment Protection Agency, EPA Emission Standards for Heavy-Duty Highway Engines and Vehicles, March 2016, https://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles

[2] United States Environment Protection Agency, Final Rule for Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles, October 25, 2016, https://www.govinfo.gov/content/pkg/FR-2016-10-25/pdf/2016-21203.pdf

[3] United States Environment Protection Agency, Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel; Final Rule, June 29, 2004, https://www.govinfo.gov/content/pkg/FR-2004-06-29/pdf/04-11293.pdf

[4] United States Environment Protection Agency, Control of Emissions from Nonroad Large Spark-Ignition Engines, and Recreational Engines (Marine and Land Based); Final Rule, November 8, 2002, https://www.govinfo.gov/content/pkg/FR-2002-11-08/pdf/02-23801.pdf

[5] California Air Resources Board, California Phase 2 Greenhouse Gas Standards, 2018, https://ww3.arb.ca.gov/regact/2018/phase2/finalatta.pdf

[6] California Air Resources Board, Advanced Clean Car Program, 2020, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program

[7] California Air Resources Board, Optional Reduced NOx Standards for Heavy-Duty Vehicles, 2020, https://ww2.arb.ca.gov/our-work/programs/optional-reduced-nox-standards

[8] California Air Resources Board, Heavy-Duty Engine and Vehicle Omnibus Regulation and Associated Amendments, August 27,2020, https://ww3.arb.ca.gov/regact/2020/hdomnibuslownox/res20-23.pdf

[9] California Air Resources Board, Truck and Bus Regulation, 2018, https://ww3.arb.ca.gov/msprog/onrdiesel/documents/tbfinalreg.pdf

[10] California Air Resources Board, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate., October 16, 2012, https://ww2.arb.ca.gov/sites/default/files/classic//diesel/tru/documents/fro_10-16-12.pdf

[11] California Air Resources Board, Regulation for In-Use Off-Road Diesel-Fueled Fleets, December 2011, https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/documents/finalregorder-dec2011.pdf

[12] California Air Resources Board, Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation, 2020, https://ww2.arb.ca.gov/our-work/programs/large-spark-ignition-lsi-engine-fleet-requirements-regulation

[13] Association of Environmental Professionals 2020 CEQA California Environmental Quality Act Statutes and Guidelines, https://www.califaep.org/docs/2020_ceqa_book.pdf, 2020, https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/documents/finalregorder-dec2011.pdf

[14] South Coast Air Quality Management District. Control of Oxides of Nitrogen Emissions from Off-Road Diesel Vehicles. http://www.aqmd.gov/docs/default-source/rule-book/reg-xxiv/rule-2449.pdf

[15] California Air Resources Board, Rule 2202 ─ On-Road Motor Vehicle Mitigation Options, Employee Commute Reduction Program Guidelines, February 5, 2016, http://www.aqmd.gov/docs/default-source/rule-book/support-documents/rule-2202/rule-2202-employee-commute-reduction-program-guidelines-(ecrp).pdf

Figure 3.1-1b
Potential Upcoming Regulations that would Reduce Air Quality Impacts from Warehouses

Engine Standards	Fleet Rules	Facility-Based Rules
•U.S. EPA Cleaner Trucks Initiative[1] •CARB Advanced Clean Trucks[2] •CARB TRU Rule[3] •CARB's Small Off-Road Engines[4] •CARB's Advanced Clean Cars 2[4]	•CARB Advanced Clean Fleets[5] •CARB Innovative Clean Transit[6] •CARB TRU Rule[3] •CARB Lower In-Use Emission Performance Levels[4] •CARB's Innovative Technology Certification Flexibility[4] •South Coast AQMD Further Deployment of Cleaner Technologies[4] •CARB's Zero-Emission Off-Road Forklift Regulation Phase 1[4] •CARB Heavy-Duty Engine and Vehicle Omnibus Regulation and Associated Amendments[8]	•CARB TRU Rule[3] •South Coast AQMD PR 2305 Indirect Source Rule[7]

[1] United States Environment Protection Agency, Cleaner Trucks Initiative, March 27, 2020, https://www.epa.gov/regulations-emissions-vehicles-and-engines/cleaner-trucks-initiative

[2] California Air Resources Board, Advanced Clean Trucks, 2020, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks

[3] California Air Resources Board, New Transport Refrigeration Unit Regulation in Development, 2020, https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit/new-transport-refrigeration-unit-regulation

[4] California Air Resources Board, Revised Proposed 2016 State Strategy for the State Implementation Plan, March 27, 2017, https://ww3.arb.ca.gov/planning/sip/2016sip/rev2016statesip.pdf

[5] California Air Resources Board, Advanced Clean Fleets, 2020, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets

[6] California Air Resources Board, Innovative Clean Transit, 2020, https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit

[7] The WAIRE Program is the proposed rule under consideration in this EA.

[8] California Air Resources Board, Heavy-Duty Engine and Vehicle Omnibus Regulation and Associated Amendments. September 29, 2020 https://ww2.arb.ca.gov/rulemaking/2020/hdomnibuslownox

Other State and South Coast AQMD Requirements

Executive Order (EO) N-79-20. On September 23, 2020, Governor Newsom signed an executive order directing state agencies to pursue aggressive goals towards zero emissions technologies. Key directives include:

- CARB shall develop and propose car and truck regulations with increasing zero emissions percentages such that by 2035 all in state sales are zero emissions.
- CARB shall also pursue regulations to achieve a 100 percent zero emissions medium duty and heavy duty fleet by 2045, with drayage fleets achieving this goal by 2035.
- CARB shall develop, in coordination with state agencies, U.S. EPA, and local air districts, strategies to achieve 100 percent zero emissions operations for off-road vehicles by 2035. [32]

Senate Bill 44. The California Legislature passed Senate Bill (SB) 44, acknowledging the ongoing need to evaluate opportunities for mobile source emissions reductions and requiring CARB to update the 2016 Mobile Source Strategy by January 1, 2021, and every five years thereafter. Specifically, SB 44 requires CARB to update the 2016 Mobile Source Strategy to include a comprehensive strategy for the deployment of medium and heavy-duty vehicles for the purpose of meeting air quality standards and reducing GHG emissions. It also directs CARB to set reasonable and achievable goals for reducing emissions by 2030 and 2050 from medium- and heavy-duty vehicles that are consistent with the State's overall goals and maximizes the reduction of criteria air pollutants.

AB 617 Community Air Protection Program: In 2017, Governor Edmund Brown signed Assembly Bill (AB) 617 to develop a new community-focused program to reduce local air pollution in environmental justice communities more effectively. The AB 617 program includes community air monitoring and community emissions reduction programs. In addition, the legislature appropriated funding to support early actions to address localized air pollution through targeted incentive funding to deploy cleaner technologies in these communities, and grants to support community participation in the AB 617 process. AB 617 includes new requirements for accelerated retrofit of air pollution controls on industrial sources, increased penalty fees, and greater transparency and availability of air quality and emissions data, which will help advance air pollution control efforts throughout the State.

In December 2018, CARB designated three AB 617 communities in the South Coast AQMD, including Wilmington, Carson, West Long Beach; San Bernardino, Muscoy; and East Los Angeles, Boyle Heights, West Commerce. A Community Steering Committee (CSC) was established for each community to gather input and develop Community Emission Reduction Plans (CERPs) and Community Air Monitoring Plans (CAMPs). The CSCs are comprised of residents, community organizations, local agencies, and businesses. Each CERP includes actions, strategies, and goals focused on emission and exposure reductions for air quality priorities identified by the CSCs. In September 2019, the South Coast AQMD Governing Board adopted the CERPs. Due to concerns expressed by the CSCs about local air quality impacts in their communities from trucks going to warehouses, all three 1st Year CERPs include as an action item that South Coast AQMD should continue developing an indirect source rule for warehouses (i.e. WAIRE Program).

[32] California, Office of Governor Gavin Newsom. 2020, September 23. Executive Order N-79-20. https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-text.pdf

In December 2019, CARB designated two new AB 617 communities in the South Coast AQMD, including Eastern Coachella Valley and Southeast Los Angeles. A CSC was established for each new community to gather input and develop CERPs and CAMPs. In December 2020, the South Coast AQMD Governing Board adopted the CERPs for the Eastern Coachella Valley and Southeast Los Angeles communities. Due to concerns expressed by the Southeast Los Angeles CSC about the goods movement out of the Ports of Los Angeles and Long Beach and the corresponding emissions from heavy-duty diesel trucks, the CERP for Southeast Los Angeles includes an action item that South Coast AQMD should continue development of the Warehouse Indirect Source Rule (i.e., the WAIRE Program).

In addition to the other five communities, in October 2020, the South Coast AQMD Board voted to designate a sixth AB 617 community in the South Los Angeles area.

Environmental Justice (EJ): Environmental justice has long been a focus of South Coast AQMD. In 1990, South Coast AQMD formed an Ethnic Community Advisory Group that was restructured as the Environmental Justice Advisory Group (EJAG) in 2008. EJAG's mission is to advise and assist South Coast AQMD in protecting and improving public health in South Coast AQMD's most impacted communities through the reduction and prevention of air pollution.

In 1997, the South Coast AQMD Governing Board adopted four guiding principles and ten initiatives to ensure environmental equity.[33] Also in 1997, the South Coast AQMD Governing Board expanded the initiatives to include the "Children's Air Quality Agenda" focusing on the disproportionate impacts of poor air quality on children. Some key initiatives that have been implemented were the Multiple Air Toxics Exposure Studies (MATES, MATES II, MATES III, and MATES IV); the Clean Fleet Rules; Cumulative Impact Reduction Strategies (CIRS); funding for lower emitting technologies under the Carl Moyer Program; the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*; a guidance document on *Air Quality Issues in School Site Selection*; and the 2000 Air Toxics Control Plan and its 2004 Addendum. Key initiatives focusing on communities and residents include the Clean Air Congress; the Clean School Bus Program; Asthma and Air Quality Consortium; Brain and Lung Tumor and Air Pollution Foundation; air quality presentations to schools and community and civic groups; and Town Hall meetings. Technological and scientific projects and programs have been a large part of South Coast AQMD's EJ program since its inception. Over time, the EJ program's focus on public education, outreach, and opportunities for public participation have greatly increased. Public education materials and other resources for the public are available on South Coast AQMD's website (www.aqmd.gov).

Clean Communities Plan: On November 5, 2010, the South Coast AQMD Governing Board approved the 2010 Clean Communities Plan (CCP). The CCP was an update to the 2000 Air Toxics Control Plan (ATCP) and the 2004 Addendum to the ATCP. The objective of the 2010 CCP was to reduce exposure to air toxics and air-related nuisances throughout the South Coast AQMD, with emphasis on cumulative impacts. The elements of the 2010 CCP are community exposure reduction, community participation, communication and outreach, agency coordination, monitoring and compliance, source-specific programs, and nuisance. The centerpiece of the 2010 CCP is a pilot study through which South Coast AQMD staff worked with community stakeholders

[33] South Coast AQMD. Environmental Justice History. http://www.aqmd.gov/nav/about/initiatives/environmental-justice/history

to identify and develop community-specific solutions to air quality issues in two communities: 1) the City of San Bernardino; and 2) Boyle Heights and surrounding areas.

Control Measures in the AQMP. The 2016 AQMP consists of three components: 1) the South Coast AQMD's Stationary, Area, and Mobile Source Control Measures (MOB); 2) State and Federal Control Measures imposed by CARB through the SIP; and 3) Regional Transportation Strategy and Control Measures prepared by the Southern California Association of Governments. The 2016 AQMP includes emission inventories and control measures for stationary, area and mobile sources, an air quality setting, updated growth projections, new modeling techniques, demonstrations of compliance with state and federal CAA requirements, and an implementation schedule for adoption of the proposed control strategies. MOB control measures applicable to the proposed project include:

- **MOB-03 – Emission Reductions at Warehouse Distribution Centers:** The goal of this facility-based mobile source control measure is to examine potential actions to reduce emissions associated with the operation of warehouse distribution centers. This measure aims to mitigate emissions from all pollutants. The proposed project is a direct outcome of MOB-03.
- **MOB-07 – Accelerated Penetration of Partial Zero-Emission and Zero-Emission Light-Heavy- and Medium-Heavy-Duty Vehicles:** The goal of this on-road mobile source control measure is to accelerate the introduction of hybrid or zero-emission technology for light-heavy and medium-heavy-duty vehicles. This would be accomplished through continuing incentive programs like the Hybrid truck and bus Voucher Incentive Program (HVIP), and through seeking legislative authority to allow South Coast AQMD to update its fleet rules for public fleets.
- **MOB-08 – Accelerated Retirement of Older On-Road Heavy-Duty Vehicles:** The goal of this mobile source control measure is to achieve additional emission reductions from heavy-heavy duty on-road vehicles by retiring older diesel vehicles and replacing them with NZE and ZE vehicles, either through incentive programs or through additional regulations. This measure would be accomplished through incentive programs, through seeking legislative authority to allow South Coast AQMD to update is fleet rules for public fleets, and also pursuing potential regulations for privately-owned fleets.
- **Further Deployment of Cleaner Technologies:** This measure, included in the State SIP Strategy and the 2016 AQMP, encompasses more NOx emission reductions than all other measures combined. The measure applies to both on-road and off-road sources and primarily relies on new regulations and significant new sources of incentive funding that were not defined at the time of the AQMP. Emission reductions from PR 2305 would apply towards the commitment in this control measure.

3.1.3 Greenhouse Gas Emissions

Greenhouse gases (GHGs) trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The latter, anthropogenic sources of GHGs, is the focus of impacts under CEQA. Traditionally, GHGs and other global warming pollutants are perceived as solely global in their impacts and that increasing emissions anywhere in the world contributes to climate change anywhere in the world. A study conducted on the health

impacts of CO_2 'domes' that form over urban areas cause increases in local temperatures and local criteria pollutants, which have adverse health effects[34].

3.1.3.1 Climate Change

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. Historical records have shown that temperature changes have occurred in the past, such as during previous ice ages. Data indicate that the current temperature record differs from previous climate changes in rate and magnitude.

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs), comparable to a greenhouse, which captures and traps radiant energy. GHGs are emitted by natural processes and human activities. The accumulation of greenhouse gases in the atmosphere regulates the earth's temperature. Global warming is the observed increase in average temperature of the earth's surface and atmosphere. The primary cause of global warming is an increase of GHGs in the atmosphere. The six major GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbon (PFCs). The GHGs absorb longwave radiant energy emitted by the Earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the Earth. The downward part of this longwave radiation emitted by the atmosphere is known as the 'greenhouse effect.' Emissions from human activities such as fossil fuel combustion for electricity production and vehicles have elevated the concentration of these gases in the atmosphere.

- **Carbon Dioxide (CO_2)** is an odorless, colorless greenhouse gas. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of CO_2 include burning coal, oil, gasoline, natural gas, and wood.
- **Methane (CH_4)** is a flammable gas and is the main component of natural gas.
- **Nitrous Oxide (N_2O)**, also known as laughing gas, is a colorless greenhouse gas. Some industrial processes such as fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions also contribute to the atmospheric load of N_2O.
- **Hydrofluorocarbons (HFCs)** are synthetic man-made chemicals that are used as a substitute for chlorofluorocarbons (whose production was stopped as required by the Montreal Protocol) for automobile air conditioners and refrigerants. The two main sources of perfluorocarbon (PFCs) are primary aluminum production and semiconductor manufacture. Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Scientific consensus, as reflected in recent reports issued by the United Nations Intergovernmental Panel on Climate Change, is that the majority of the observed warming over the last 50 years can be attributable to increased concentration of GHGs in the atmosphere due to human activities. Human activities are directly altering the chemical composition of the atmosphere through the

[34] Jacobsen, Mark Z. "Enhancement of Local Air Pollution by Urban CO_2 Domes," Environmental Science and Technology, as describe in Stanford University press release on March 16, 2010 available at: http://news.stanford.edu/news/2010/march/urban-carbon-domes-031610.html

buildup of climate change pollutants.[35] In the past, gradual changes in temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but in a human's lifetime.[36] Industrial activities, particularly increased consumption of fossil fuels (e.g., gasoline, diesel, wood, coal, etc.), have heavily contributed to the increase in atmospheric levels of GHGs. The United Nations Intergovernmental Panel on Climate Change constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of greenhouse gases at 400 to 450 ppm carbon dioxide-equivalent (CO_2eq) concentration is required to keep global mean warming below two degrees Celsius, which has been identified as necessary to avoid dangerous impacts from climate change.[37]

3.1.3.1.1 Effects of Climate Change

The potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, air quality impacts, and sea level rise. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (e.g., heat rash and heat stroke). In addition, climate sensitive diseases may increase, such as those spread by mosquitoes and other disease carrying insects. Those diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding, hurricanes, and wildfires can displace people and agriculture, which would have negative consequences. Drought in some areas may increase, which would decrease water and food availability. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution. [38]

The impacts of climate change will also affect projects in various ways. Effects of climate change are rising sea levels and changes in snowpack. [39] The extent of climate change impacts at specific locations remains unclear..

3.1.3.1.2 California's GHG Sources and Relative Contribution

In 2020, the statewide GHG emissions inventory was updated for 2000 to 2018 emissions using the global warming potentials (GWP) in the International Panel on Climate Change's (IPCC) Fourth Assessment Report (AR4).[40,41] Based on these GWPs, California produced 425.3 MMTCO_2eq GHG emissions in 2018. California's transportation sector was the single largest generator of GHG emissions, producing 39.9 percent of the state's total emissions.

[35] California Climate Action Team, 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature.

[36] Intergovernmental Panel on Climate Change, 2007. Fourth Assessment Report: Climate Change 2007, New York: Cambridge University Press.

[37] Intergovernmental Panel on Climate Change (IPCC). 2014. *Fifth Assessment Report: Climate Change 2014*. New York: Cambridge University Press.

[38] Center for Disease Control. 2016. Climate Change Decreases the Quality of the Air We Breathe. https://www.cdc.gov/climateandhealth/pubs/AIR-QUALITY-Final_508.pdf

[39] Office of Environmental Health Hazards Assessment, 2018. Indicators of Climate Change in California. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf, accessed April 3, 2019.

[40] Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

[41] Global warming potential is the metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO_2) over a given period of time (20, 100, and 500 years). CO_2 has a GWP of 1.

Industrial sector emissions made up 21.0 percent, and electric power generation made up 14.8 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (9.7 percent), agriculture and forestry (7.7 percent) high GWP (4.8 percent), and recycling and waste (2.1 percent).[42]

Since the peak level in 2004, California statewide GHG emissions dropped below the 2020 GHG limit of 431 $MMCO_2eq$ in 2016 and have remained below the 2020 GHG limit since then. In 2018, emissions from routine GHG emitting activities statewide were 6 $MMTCO_2eq$ lower than the 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 $MTCO_2eq$ per person to 10.7 $MTCO_2eq$ per person in 2018, a 24 percent decrease. Transportation emissions decreased in 2018 compared to the previous year, which is the first year over year decrease since 2013. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2018, solar power generation has continued its rapid growth since 2013. Emissions from high-GWP gases increased 2.3 percent in 2018 (2000-2018 average year-over-year increase is 6.8 percent), continuing the increasing trend as they replace Ozone Depleting Substances (ODS) being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product (GDP)) is declining, representing a 43 percent decline since the 2001 peak, while the state's GDP has grown 59 percent during this period.[43]

3.1.3.1.3 South Coast Air Basin GHG Emissions

Table 3.1-9 presents the GHG emission inventory by fuel type in calendar year 2012 for the SCAB. These GHG emissions are reported in $MTCO_2eq$. Gasoline generates 53 percent of the GHG emissions from fuel combustion. Natural gas generates 31 percent of the GHG emissions from fuel combustion. The remaining 20 percent of the total SCAB GHG emissions from fuel combustion are from diesel, jet fuel, LPG, and fuel oil.[44]

[42] California Air Resources Board (CARB). 2020, October 15. California Greenhouse Gas Inventory for 2000-2018: By Category as Defined in the 2008 Scoping Plan. https://ww2.arb.ca.gov/ghg-inventory-data

[43] California Air Resources Board. 2020, October 15. California Greenhouse Emissions for 2000 to 2018: Trends of Emissions and Other Indicators. https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf

[44] South Coast AQMD. 2017, March. Final 2016 Air Quality Management Plan, Chapter 10.

Table 3.1-9
2012 GHG Emissions from Fuel Use in the South Coast Air Basin

Fuel Type	Consumption (Gallons)	Gas Supply (Therms)	CO_2 Emissions (MT)
Gasoline	7,647,883,106	-	67,148,414
On-Road	7,108,714,450		62,414,512.87
Off-Road	539,168,656		4,733,900.80
Diesel	1,423,889,933	-	14,537,916
On-Road	872,963,200		8,912,954.27
Commercial Harborcraft	21,912,232		223,723.89
Trains	33,129,134		338,248.46
Off-Road	495,885,367		5,062,989.59
Jet Fuel	508,249,568.11		4,955,433.29
Fuel Oil - OGV (Residual Fuel Oil 5/6)	23,960,515.63		282,734.08
Natural Gas	8,831,724,016	7,359,770,013	39,389,489
Residential	2,445,612,164	2,038,010,137	10,907,430.25
Commercial	990,525,700	825,438,083	4,417,744.62
Industrial	1,592,974,552	1,327,478,793	7,104,666.50
NGV	132,285,600	110,238,000	589,993.78
EG	3,670,326,000	3,058,605,000	16,369,653.96
LPG	182,009,738		1,053,836
Residential	115,838,116		670,702.69
Commercial	43,807,549		253,645.71
Industrial	22,364,073		129,487.98
Total	**18,671,716,877**		**127,367,823**

Source: South Coast AQMD. 2017, March. Final 2016 Air Quality Management Plan.

3.1.3.2 Federal Regulations and Plans

Greenhouse Gas Endangerment Findings: On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases pursuant to the Clean Air Act 202 (a). The Endangerment Finding stated that CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 taken in combination endanger both the public health and the public welfare of current and future generations. The *Cause or Contribute Finding* stated that the combined emissions from motor vehicles and motor vehicle engines contribute to the greenhouse gas air pollution that endangers public health and welfare. These findings were a prerequisite for implementing GHG standards for vehicles. The U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) finalized emission standards for light-duty vehicles in May 2010 and for heavy-duty vehicles in August of 2011. Subsequently, the U.S. EPA rolled back the light duty GHG standards, a decision which is currently under litigation.

Renewable Fuel Standard: The Renewable Fuel Standard (RFS) program was established under the Energy Policy Act (EPAct) of 2005, and required 7.5 billion gallons of renewable-fuel to be blended into gasoline by 2012. Under the Energy Independence and Security Act (EISA) of 2007, the RFS program was expanded to include diesel, required the volume of renewable fuel blended into transportation fuel be increased from nine billion gallons in 2008 to 36 billion gallons by 2022, established new categories of renewable fuel and required U.S. EPA to apply lifecycle GHG performance threshold standards so that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces.

GHG Tailoring Rule: On May 13, 2010, U.S. EPA finalized the GHG Tailoring Rule to phase in the applicability of the Prevention of Significant Deterioration (PSD) and Title V operating permit programs for GHGs. The GHG Tailoring Rule applies to the largest GHG emitters, while excluding smaller sources (restaurants, commercial facilities, and small farms). The first phase (from January 2, 2011 to June 30, 2011) addressed the largest sources. Title V GHG requirements were triggered only when affected facility owners/operators were applying, renewing, or revising their permits for non-GHG pollutants. The PSD GHG requirements were applicable only if sources were undergoing permitting actions for other non-GHG pollutants and the permitted action would increase GHG emission by 75,000 $MTCO_2eq$ per year or more.

The second phase (from July 1, 2011 to June 30, 2013) included sources that emit or have the potential to emit 100,000 $MTCO_2eq$ per year or more. Newly constructed sources that are not major sources for non-GHG pollutants would not be subject to PSD GHG requirements unless it emits 100,000 $MTCO_2eq$ per year or more. Modifications to a major source would not be subject to PSD GHG requirements unless it generates a net increase of 75,000 $MTCO_2eq$ per year or more. Sources not subject to Title V would not be subject to Title V GHG requirements unless 100,000 $MTCO_2eq$ per year or more would be emitted.

The third phase of the GHG Tailoring Rule, finalized on July 12, 2012, determined not to lower the current PSD and Title V applicability thresholds for GHG-emitting sources established in the GHG Tailoring Rule for phases 1 and 2. The GHG Tailoring Rule also promulgated regulatory revisions for better implementation of the federal program for establishing plantwide applicability limitations (PALs) for GHG emissions, which will improve the administration of the GHG PSD permitting programs. In 2014, the U.S. Supreme Court held that U.S. EPA was limited to phase 1.

GHG Reporting Program: U.S. EPA issued the Mandatory Reporting of Greenhouse Gases Rule (40 CFR Part 98) under the 2008 Consolidated Appropriations Act. The Mandatory Reporting of Greenhouse Gases Rule requires reporting of GHG data from large sources and suppliers under the Greenhouse Gas Reporting Program. Suppliers of certain products that would result in GHG emissions if released, combusted or oxidized; direct emitting source categories; and facilities that inject CO_2 underground for geologic sequestration or any purpose other than geologic sequestration are included. Facilities that emit 25,000 $MTCO_2eq$ or more per year are required to submit annual reports to U.S. EPA.

Ozone Depleting Substances. Under the CAA Title VI, the U.S. EPA is assigned responsibility for implementing programs that protect the stratospheric ozone layer. 40 CFR Part 82 contains U.S. EPA's regulations specific to protecting the ozone layer. These U.S. EPA regulations phase out the production and import of ozone depleting substances (ODSs) consistent with the Montreal

Protocol.[45] ODSs are typically used as refrigerants or as foam blowing agents. ODS are regulated as Class I or Class II controlled substances. Class I substances have a higher ozone-depleting potential and have been completely phased out in the United States, except for exemptions allowed under the Montreal Protocol. Class II substances are HCFCs, which are transitional substitutes for many Class I substances and are being phased out.

3.1.3.3 State Regulations and Plans

3.1.3.3.1 Statewide GHG Reduction Targets

Executive Order S-3-05: In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established emission reduction targets that would aim to reduce GHG emissions to 2000 levels by 2010, then to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

AB 32 - Global Warming Solutions Act: On September 27, 2006, AB 32, the California Global Warming Solutions Act of 2006, was signed by Governor Schwarzenegger. AB 32 expanded on Executive Order S-3-05. The California legislature stated that "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." AB 32 represented the first enforceable state-wide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB 32 laid out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

Consistent with the requirement to develop an emission reduction plan, CARB prepared a Scoping Plan indicating how GHG emission reductions will be achieved through regulations, market mechanisms, and other actions. The 2008 Scoping Plan called for reducing GHG emissions to 1990 levels by 2020. This means cutting approximately 30 percent from business-as-usual (BAU) emission levels projected for 2020, or about 15 percent from 2005 to 2008 levels.[46] However, as of January 1, 2020, SB 32 became the guiding GHG regulation.

SB 32 and AB 197: In September 2016, Governor Brown signed Senate Bill 32 and Assembly Bill 197, making the Executive Order goal for year 2030 into a statewide, mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources. CARB prepared a 2017 Climate Change Scoping Plan Update, which outlines potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2eq$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030. [47]

[45] The Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) is an international treaty designed to phase out halogenated hydrocarbons such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), which are considered ODSs. The Montreal Protocol was first signed on September 16, 1987 and has been revised seven times. The U.S. ratified the original Montreal Protocol and each of its revisions.

[46] California Air Resources Board. 2008, December. Climate Change Scoping Plan, A Framework for Change.

[47] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on March 18, 2019.

California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conserve agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and TACs emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the stringency of the standards for the various strategies covered under the Mobile Source Strategy, which include increasing ZE buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency and utilizes near-zero emissions technology and deployment of ZE trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink. [48]

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the state's long-term GHG reduction goals and recommended local actions to reduce GHG emissions—for example, statewide targets of no more than 6 $MTCO_2eq$ or less per capita by 2030 and 2 $MTCO_2eq$ or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally appropriate goals that align with the statewide per capita targets and sustainable development objectives and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the state's 1990 emissions limit established under AB 32. For CEQA projects, CARB states that lead agencies have discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population) consistent with the Scoping Plan and the state's long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles traveled (VMT), and direct investments in GHG reductions within the project's region that contribute potential air

[48] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on March 18, 2019.

quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits. [49]

The Scoping Plan scenario is set against what is called the business-as-usual (BAU) yardstick—that is, what would the GHG emissions look like if the State did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit. It includes the existing renewables requirements, advanced clean cars, the Low Carbon Fuel Standard (LCFS), and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. The known commitments are expected to result in emissions that are 60 $MMTCO_2eq$ above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved. [50]

3.1.3.3.2 Mobile Sources

AB 1493 Vehicular Emissions: Prior to the U.S. EPA and NHTSA joint rulemaking, Governor Schwarzenegger signed Assembly Bill AB 1493 (2002). AB 1493 requires that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state." CARB originally approved regulations to reduce GHGs from passenger vehicles in September 2004, with the regulations to take effect in 2009 (see amendments to CCR Title 13 §§1900 and 1961 (13 CCR 1900, 1961), and the adoption of CCR Title 13 §1961.1 (13 CCR 1961.1)). California's first request to the U.S. EPA to implement GHG standards for passenger vehicles was made in December 2005 and subsequently denied by the U.S. EPA in March 2008. The U.S. EPA then granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009. On April 1, 2010, CARB filed amended regulations for passenger vehicles as part of California's commitment toward the national program to reduce new passenger vehicle GHGs from 2012 through 2016. The amendments will prepare California to harmonize its rules with the federal Light-Duty Vehicle GHG Standards and CAFE Standards.

Low Carbon Fuel Standard (LCFS): In 2008 Scoping Plan, CARB identified the LCFS as one of the nine discrete early action GHG reduction measures. The LCFS is designed to decrease the carbon intensity of California's transportation fuel pool and provide an increasing range of low-carbon and renewable alternatives, which reduce petroleum dependency and achieve air quality benefits. CARB approved the LCFS regulation in 2009 and began implementation on January 1, 2011 and has been amended several times since adoption. In 2018, CARB approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB

[49] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on March 18, 2019.

[50] California Public Utilities Commission. 2020. Greenhouse Gas Cap-and-Trade Program. https://www.cpuc.ca.gov/general.aspx?id=5932, accessed on December 8, 2020.

32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector. The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. The LCFS standards are expressed in terms of the 'carbon intensity' of gasoline and diesel fuel and their respective substitutes. The program is based on the principle that each fuel has 'lifecycle' greenhouse gas emissions that include CO_2, CH_4, N_2O, and other GHG contributors. This lifecycle assessment examines the GHG emissions associated with the production, transportation, and use of a given fuel. The lifecycle assessment includes direct emissions associated with producing, transporting, and using the fuels, as well as significant indirect effects on GHG emissions, such as changes in land use for some biofuels. The carbon intensity scores assessed for each fuel are compared to a declining carbon intensity benchmark for each year. Low carbon fuels below the benchmark generate credits, while fuels above the carbon intensity benchmark generate deficits. Providers of transportation fuels must demonstrate that the mix of fuels they supply for use in California meets the LCFS carbon intensity standards, or benchmarks, for each annual compliance period. A deficit generator meets its compliance obligation by ensuring that the amount of credits it earns or otherwise acquires from another party is equal to, or greater than, the deficits it has incurred.

EO S-1-07: Governor Schwarzenegger signed Executive Order S-1-07 in 2007 which established the transportation sector as the main source of GHG emissions in California. Executive Order S-1-07 proclaims that the transportation sector accounts for over 40 percent of statewide GHG emissions. Executive Order S-1-07 also establishes a goal to reduce the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020. In particular, Executive Order S-1-07 established the LCFS and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, CARB, the University of California, and other agencies to develop and propose protocols for measuring the 'life-cycle carbon intensity' of transportation fuels. The analysis supporting development of the protocols was included in the State Alternative Fuels Plan adopted by CEC on December 24, 2007 and was submitted to CARB for consideration as an 'early action' item under AB 32. CARB adopted the LCFS on April 23, 2009.

EO B-16-2012: On March 23, 2012, the State announced that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions 80 percent below 1990 levels.

EO N-79-20: On September 23, 2020 Governor Newsom signed Executive Order N-79-20 which identifies a goal that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035. Additionally, this Executive Order identified fleet goals for trucks of 100 percent of drayage trucks be zero emissions by 2035 and 100 percent of medium- and heavy-duty

vehicles in the State be zero-emission by 2045, for all operations where feasible. Additionally, the Executive Order identifies a goal for the State to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

Senate Bill 44. The California Legislature passed Senate Bill (SB) 44, acknowledging the ongoing need to evaluate opportunities for mobile source emissions reductions and requires CARB to update the 2016 Mobile Source Strategy by January 1, 2021, and every five years thereafter. Specifically, SB 44 requires CARB to update the 2016 Mobile Source Strategy to include a comprehensive strategy for the deployment of medium and heavy-duty vehicles for the purpose of meeting air quality standards and reducing GHG emissions. It also directs CARB to set reasonable and achievable goals for reducing emissions by 2030 and 2050 from medium- and heavy-duty vehicles that are consistent with the State's overall goals and maximizes the reduction of criteria air pollutants.

SB 375: SB 375, signed into law in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. As part of the alignment, SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) which prescribes land use allocation in that MPO's Regional Transportation Plan (RTP). CARB, in consultation with MPOs, is required to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned GHG emission reduction targets. If MPOs do not meet the GHG reduction targets, transportation projects located in the MPO boundaries would not be eligible for funding programmed after January 1, 2012.

CARB appointed the Regional Targets Advisory Committee (RTAC), as required under SB 375, on January 23, 2009. The RTAC's charge was to advise CARB on the factors to be considered and methodologies to be used for establishing regional targets. The RTAC provided its recommendation to CARB on September 29, 2009. CARB was required to adopt final targets by September 30, 2010.[51]

CARB is required to update the targets for the MPOs every eight years. CARB adopted revised SB 375 targets for the MPOs in March 2018. [52,53] The updated targets become effective on October 1, 2018. The targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of state technology and fuels strategies, and any potential future state strategies, such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission

[51] California Air Resources Board 2010, August. Staff Report Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375.

[52] California Air Resources Board, 2018, SB 375 Regional Greenhouse Gas Emissions Reduction Targets https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375_Final_Targets_2018.pdf, accessed on December 8, 2020.

[53] California Air Resources Board, 2018, Updated Final Staff Report: Proposed Update to the SB 375 Greenhouse Gas Emissions Reduction Targets.

reductions from SB 375 than are currently in place, which for 2035 translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCS to achieve the SB 375 targets. For the next round of SCS updates, CARB's updated targets for the SCAG region are an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent).[54] CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018, are subject to these new targets.

SCAG's Regional Transportation Plan / Sustainable Communities Strategy: SB 375 requires each MPO to prepare a sustainable communities strategy in its regional transportation plan. SCAG released the draft 2020-2045 RTP/SCS (Connect SoCal) on November 7, 2019. On September 3, 2020, SCAG's Regional Council unanimously voted to approve and fully adopt the Connect SoCal Plan.[55] In general, the SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

Connect SoCal focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land uses strategies in development of the SCAG region through horizon year 2045. Connect SoCal forecasts that the SCAG region will meet its GHG per capita reduction targets of 8 percent by 2020 and 19 percent by 2035. Additionally, Connect SoCal also forecasts that implementation of the plan will reduce VMT per capita in year 2045 by 4.1 percent compared to baseline conditions for that year. Connect SoCal includes a 'Core Vision' that centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by locating housing, jobs, and transit closer together, and increasing investments in transit and complete streets.

3.1.3.3.3 Adaptation

EO S-13-08: Governor Schwarzenegger signed Executive Order S-13-08 on November 14, 2008 which directed California to develop methods for adapting to climate change through preparation of a statewide plan. Executive Order S-13-08 directed OPR, in cooperation with the Resources Agency, to provide land use planning guidance related to sea level rise and other climate change impacts by May 30, 2009. Executive Order S-13-08 also directed the Resources Agency to develop a state Climate Adaptation Strategy by June 30, 2009 and to convene an independent panel to complete the first California Sea Level Rise Assessment Report. The assessment report was required to be completed by December 1, 2010 and required to meet the following four criteria:

1. Project the relative sea level rise specific to California by taking into account issues such as coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates.
2. Identify the range of uncertainty in selected sea level rise projections.

[54] California Air Resources Board. 2018, February. Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

[55] Southern California Association of Governments (SCAG). 2020, September. Adopted Final Connect SoCal. https://scag.ca.gov/read-plan-adopted-final-plan, accessed December 8, 2020.

3. Synthesize existing information on projected sea level rise impacts to state infrastructure (e.g., roads, public facilities, beaches), natural areas, and coastal and marine ecosystems.
4. Discuss future research needs relating to sea level rise in California.

3.1.3.3.4 Energy

SB 1078, SB 107 and Executive Order S-14-08: SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Portfolio Standard to 33 percent renewable power by 2020.

SB X-1-2: SB X1-2 was signed by Governor Brown in April 2011. SB X1-2 created a new Renewables Portfolio Standard (RPS), which pre-empted CARB's 33 percent Renewable Electricity Standard. The new RPS applies to all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. These entities must adopt the new RPS goals of 20 percent of retails sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement by the end of 2020.

SB 1368: SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 required the CPUC to establish a GHG emission performance standard for baseload generation from investor owned utilities (IOUs) by February 1, 2007. The California Energy Commission (CEC) was also required to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired plant. The legislation further required that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the Public Utilities Commission (PUC) and CEC.

Senate Bill 350: Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100: On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18: Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant

state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2eq from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Assembly Bill 2127: This bill requires the California Energy Commission (CEC), working with CARB and the California Public Utilities Commission (CPUC), to prepare and biennially update a statewide assessment of the electric vehicle charging infrastructure needed to support the levels of electric vehicle adoption required for the state to meet its goals of putting at least 5 million zero-emission vehicles on California roads by 2030 and of reducing emissions of greenhouse gases to 40 percent below 1990 levels by 2030. The bill requires the CEC to regularly seek data and input from stakeholders relating to electric vehicle charging infrastructure.[56]

California Building Code – Building Energy Efficiency Standards: Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018, and went into effect on January 1, 2020. The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements. [57]

California Building Code – CALGreen: On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as 'CALGreen') was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[58] The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen standards became effective January 1, 2020. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

[56] California Legislative Information, September 14, 2018, AB-2127 Electric Vehicle Charging Infrastructure: Assessment, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB2127, accessed December 17, 2020.

[57] California Energy Commission (CEC). 2018. News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation. http://www.energy.ca.gov/releases/2018_releases/2018-05-09_building_standards_adopted_nr.html. Accessed December 8, 2020.

[58] The green building standards became mandatory in the 2010 edition of the code.

3.1.3.3.5 Short-Lived Climate Pollutants

SB 1383: On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 required CARB, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030, as specified. On March 14, 2017, CARB adopted the "Final Proposed Short-Lived Climate Pollutant Reduction Strategy," which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s despite the tripling of diesel fuel use. In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

3.1.3.3.6 Ozone Depleting Substances (ODSs)

Refrigerant Management Program: As part implementing AB 32, CARB also adopted a Refrigerant Management Program in 2009. The Refrigerant Management Program is designed to reduce GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal.

HFC Emission Reduction Measures for Mobile Air Conditioning – Regulation for Small Containers of Automotive Refrigerant: The Regulation for Small Containers of Automotive Refrigerant applies to the sale, use, and disposal of small containers of automotive refrigerant with a GWP greater than 150. Emission reductions are achieved through implementation of four requirements: 1) use of a self-sealing valve on the container, 2) improved labeling instructions, 3) a deposit and recycling program for small containers, and 4) an education program that emphasizes best practices for vehicle recharging. This regulation went into effect on January 1, 2010 with a one-year sell-through period for containers manufactured before January 1, 2010. The target recycle rate is initially set at 90 percent, and rose to 95 percent beginning January 1, 2012.

3.1.3.4 South Coast AQMD Regulations and Policies

The South Coast AQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the South Coast AQMD to consider global impacts in rulemaking and in drafting revisions to the AQMP. In March 1992, the South Coast AQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include support of the adoption of a California GHG emission reduction goal.

Basin GHG Policy and Inventory: The South Coast AQMD has established a policy, adopted by the South Coast AQMD Governing Board at its September 5, 2008 meeting, to actively seek opportunities to reduce emissions of criteria, toxic, and climate change pollutants. The policy includes the intent to assist businesses and local governments implementing climate change measures, decrease the agency's carbon footprint, and provide climate change information to the public.

3.1.3.4.1 South Coast AQMD's Ozone Depleting Substances (ODS) Policies and Rules

Policy on Global Warming and Stratospheric Ozone Depletion. The South Coast AQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy targeted a transition away from CFCs as an industrial refrigerant and propellant in aerosol cans. In March 1992, the South Coast AQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives for ODSs:

- Phase out the use and corresponding emissions of CFCs, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995.
- Phase out the large quantity use and corresponding emissions of HCFCs by the year 2000.
- Develop recycling regulations for HCFCs
- Develop an emissions inventory and control strategy for methyl bromide.

3.2 ENERGY

This section describes the existing conditions related to energy within the South Coast AQMD's jurisdiction, including the regulatory framework for energy. Several federal and state laws have been enacted to regulate fuel economy standards, mandate environmentally sound transportation planning, increase the use of renewable energy resources and alternative fuels, provide the nation with greater energy independence and security, and adequately plan for California's future energy needs. The most relevant energy laws and regulations are summarized later in this section.

3.2.1 Existing Energy Providers

According to the Draft WAIRE Menu Technical Report[1], warehouses over 100,000 square feet in South Coast AQMD's jurisdiction are primarily serviced by Southern California Edison (SCE) (75 percent of service area) and the Los Angeles Department of Water and Power (LADWP) (8 percent of service area).[2]

- **SCE –** SCE's service area spans much of southern California—from Orange and Riverside counties in the south to Santa Barbara County in the west to Mono County in the north.[3] The total electricity consumption in SCE's service area in gigawatt-hours (GWh) was 105,162 GWh in 2019.[4] The total mid-electricity consumption in SCE's service area is forecast to increase by approximately 10,000 GWh between 2018 and 2030.[5]
- **LADWP –** The LADWP service area spans much of the urban areas of Los Angeles County with a total electricity consumption of 23,402 GWh in 2019.[6] Based on LADWP's 2017 Power Strategic Long-Term Resource Plan, LADWP forecasts that its total retail sales in the 2021–2022 fiscal year will be 22,613 GWh of electricity.[7]

According to the CEC, transportation accounts for nearly 37 percent of California's total energy consumption in 2014.[8] In 2019, California consumed 15.4 billion gallons of gasoline and 3.7

[1] Draft WAIRE Menu Technical Report, Version 3/3/2020, available on South Coast AQMD's website at http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/waire-menu-technical-report_draft_3-3-20.pdf?sfvrsn=6

[2] Other electricity service providers include, the City of Industry (6 percent of service area), City of Vernon (3 percent), City of Anaheim (2 percent), and Moreno Valley (1 percent).

[3] California Energy Commission, February 24, 2015, California Energy Utility Service Areas https://images.landsofamerica.com/imgs6/cb/04/57/CAElectric_Service_Areas_Detail_d788.pdf, accessed December 16, 2020.

[4] California Energy Commission, 2016, Electricity Consumption by Planning Area, http://www.ecdms.energy.ca.gov/elecbyplan.aspx, accessed December 16, 2020.

[5] California Energy Commission, April 19, 2018, California Energy Demand 2018-2030 Revised Forecast, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2017-integrated-energy-policy-report/2017-iepr, accessed December 17, 2020.

[6] California Energy Commission, 2016, Electricity Consumption by Planning Area, http://www.ecdms.energy.ca.gov/elecbyplan.aspx, accessed December 16, 2020.

[7] Los Angeles Department of Water and Power, December 2017, 2017 Power Strategic Long-Term Resource Plan, https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-p-doc?_adf.ctrl-state=ktddnyxka_4&_afrLoop=353019973497746, accessed December 17, 2020.

[8] California Energy Commission. 2017, January. 2016 Appliance Efficiency Regulations. https://ww2.energy.ca.gov/2017publications/CEC-400-2017-002/CEC-400-2017-002.pdf.

billion gallons of diesel fuel.[9,10] Petroleum-based fuels currently account for 90 percent of California's transportation energy sources.[11] However, the State is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHGs from the transportation sector, and reduce VMT. Accordingly, gasoline consumption in California has declined. The CEC predicts that the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels.[12] Per CEC fuel sales data, on-road transportation sources for Los Angeles County, Orange County, Riverside County, and San Bernardino County consumed a combined 6.9 billion gallons of gasoline and 1.3 billion gallons of diesel fuel in 2019.[13,14]

3.2.2 Energy Regulations and Plans

3.2.2.1 Federal Regulations and Plans

Federal Energy Policy and Conservation Act: The Energy Policy and Conservation Act (EPCA) of 1975 was established in response to the 1973 oil crisis. The Act created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of U.S. crude oil (with a few limited exceptions). EPCA created Corporate Average Fuel Economy (CAFE) standards for passenger cars starting in model year 1978. CAFE Standards are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

Energy Independence and Security Act of 2007: The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The Act sets increased CAFE Standards; the Renewable Fuel Standard; appliance energy efficiency standards; building energy efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration.[15]

Update to Corporate Average Fuel Economy Standards (2021 to 2026): The federal government issued new CAFE standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. On March 30, 2020, the U.S. EPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards, covering model years 2021 through 2026, known as The Safer Affordable Fuel

[9] California Energy Commission. 2020, September 22. 2019 California Annual Retail Fuel Outlet Report Results (CEC-A15). https://www.energy.ca.gov/sites/default/files/2020-10/2010-2019%20CEC-A15%20Results%20and%20Analysis.xlsx.

[10] Diesel is adjusted to account for retail (47.2 percent) and non-retail (52.8 percent) diesel sales.

[11] California Energy Commission, October 13, 2020, 2020-2021 Investment Plan Update for the Clean Transportation Program, https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program/clean-transortation-program-investment-5, accessed December 15, 2020.

[12] California Energy Commission. 2020, February 20. 2019 Integrated Energy Policy Report. https://efiling.energy.ca.gov/getdocument.aspx?tn=232922.

[13] California Energy Commission. 2020, September 22. 2019 California Annual Retail Fuel Outlet Report Results (CEC-A15). https://www.energy.ca.gov/sites/default/files/2020-10/2010-2019%20CEC-A15%20Results%20and%20Analysis.xlsx.

[14] Diesel is adjusted to account for retail (47.2 percent) and non-retail (52.8 percent) diesel sales.

[15] United States Environmental Protection Agency. 2019, May 6, Summary of the Energy Independence and Security Act Public Law 110-140 (2007). https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act

Efficient (SAFE) Vehicles Final Rule for Model Years 2021-2026. Under SAFE, the fuel economy standards would have increased 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE would have required a fleet average of 40.4 MPG for model year 2026 vehicles.[16] However, a consortium of automakers and the state of California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards nationwide. Automakers that agreed to the framework include Ford, Honda, BMW of North America, Volkswagen Group of America, GM and Nissan. The framework supports continued annual reductions of vehicle GHG emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and provides industry the certainty needed to make investments and create jobs. This commitment means that the auto companies party to the voluntary agreement will only sell cars in the United States that meet these standards.[17] President Biden has signed an Executive Order directing the U.S. EPA to revise the SAFE Vehicles Rule Parts One and Two with Part One by April 2021 and Part Two by July 2021, respectively .

Phase 1 and 2 Heavy-Duty Vehicle GHG Standards: Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by United States Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA). The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type.[18] The EPA and NHTSA have also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type.[19]

3.2.2.2 State Regulations and Plans

Renewables Portfolio Standard: The California Renewables Portfolio Standard (RPS) was established in 2002 under SB 1078 and was amended in 2006, 2011 and 2018. The RPS program requires investor-owned utilities (IOU), electric service providers (ESP), and community choice aggregators (CCA) to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The California Public Utilities Commission (CPUC) is required to provide quarterly progress reports on progress toward RPS goals. This has accelerated the development of renewable energy projects throughout the state.

All electricity retail sellers had an interim target between compliance periods to serve at least 27 percent of their load with RPS-eligible resources by December 31, 2017. In general, retail sellers either met or exceeded the interim 27 percent target and are on track to achieve their compliance requirements. California's three large IOUs collectively served 36 percent of their 2017 retail

[16] The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks: Final Rule, Vol. 85 Federal Register, No. 84 (April 30, 2020).

[17] California Air Resources Board. 2019, July 25, California and major automakers reach groundbreaking framework agreement on clean emission standards, https://ww2.arb.ca.gov/news/california-and-major-automakers-reach-groundbreaking-framework-agreement-clean-emission

[18] United States Environmental Protection Agency. 2011, August. Fact Sheet: EPA and NHTSA Adopt First-Ever Program to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles. https://nepis.epa.gov/Exe/ZyPDF.cgi/P100BOT1.PDF?Dockey=P100BOT1.PDF.

[19] Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2, Vol. 81 Federal Register, No. 206 (October 25, 2016).

electricity sales with renewable power. The Small and Multi-Jurisdictional Utilities (SMJUs) and ESPs served roughly 27 percent of retail sales with renewables and CCAs collectively served 50 percent of retail sales with renewable power.[20] Senate Bill 350 (SB 350) was signed into law September 2015, establishing tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures. Senate Bill 100 (SB 100), passed in 2018, replaces the RPS requirements of SB 350. Under SB 100, the RPS for public owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030, and establishes an overall State policy that puts California on the path to 100 percent fossil-fuel free electricity by the year 2045.

State Alternative Fuel Plan: Assembly Bill 1007 requires the CEC to prepare a plan to increase the use of alternative fuels in California. The State Alternative Fuels Plan was prepared by the California Energy Commission (CEC) with the California Air Resources Board (CARB) and in consultation with other federal, state, and local agencies to reduce petroleum consumption; increase use of alternative fuels (e.g., ethanol, natural gas, liquefied petroleum gas, electricity, and hydrogen); reduce GHG emissions; and increase in-state production of biofuels. The State Alternative Fuels Plan recommends a strategy that combines private capital investment, financial incentives, and advanced technology that will increase the use of alternative fuels; result in significant improvements in the energy efficiency of vehicles; and reduce trips and vehicle miles traveled (VMT) through changes in travel habits and land management policies. The Alternative Fuels and Vehicle Technologies Funding Program legislation (Assembly Bill 118, Statutes of 2007) proactively implements this plan.[21]

Assembly Bill 2127: This bill would require the CEC, working with CARB and the CPUC, to prepare and biennially update a statewide assessment of the electric vehicle charging infrastructure needed to support the levels of electric vehicle adoption required for the state to meet its goals of putting at least 5 million zero-emission vehicles on California roads by 2030 and of reducing emissions of greenhouse gases to 40% below 1990 levels by 2030. The bill would require the CEC to regularly seek data and input from stakeholders relating to electric vehicle charging infrastructure.[22]

Executive Order (EO) N-79-20: On September 23, 2020, Governor Newsom signed an executive order directing state agencies to pursue aggressive goals towards zero emissions technologies. Key directives include:

- CARB shall develop and propose car and truck regulations with increasing zero emissions percentages such that by 2035 all in state sales are zero emissions.
- CARB shall also pursue regulations to achieve a 100 percent zero emissions medium duty and heavy-duty fleet by 2045.

[20] California Public Utilities Commission (CPUC). 2020, July 20 (accessed). Current Renewable Procurement Status. https://www.cpuc.ca.gov/rps

[21] California Energy Commission. 2007, December. State Alternative Fuels Plan. http://web.archive.org/web/20171120094050/http://www.energy.ca.gov/2007publications/CEC-600-2007-011/CEC-600-2007-011-CMF.PDF.

[22] California Legislative Information, September 14, 2018, AB-2127 Electric Vehicle Charging Infrastructure: Assessment, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB2127, accessed December 17, 2020.

- CARB shall develop, in coordination with state agencies, U.S. EPA, and local air districts, strategies to achieve 100 percent zero emissions operations for off-road vehicles by 2035. [23]

Warren-Alquist Act: Established in 1974, the Warren-Alquist Act created the CEC in response to the energy crisis of the early 1970s and the state's unsustainable growing demand for energy resources. The CEC's core responsibilities include advancing state energy policy, encouraging energy efficiency, certifying thermal power plants, investing in energy innovation, developing renewable energy, transforming transportation and preparing for energy emergencies. The Warren-Alquist Act is updated every year to address current energy needs and issues with its latest edition in January 2020.

California Energy Action Plan: On May 8, 2003, the CEC and CPUC approved the California Energy Action Plan. The plan establishes shared goals and proposes specific actions to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers. On August 25, 2005, the Energy Action Plan II was approved which identifies further actions necessary to meet California's future energy needs. Subsequently, in 2008, the Energy Action Plan update was published, which examines the state's ongoing actions in the context of global climate change.

Assembly Bill 1493: California vehicle GHG emission standards were enacted under Assembly Bill 1493 (Pavley I). Pavley I was a clean-car standard that reduced GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016, including a 30 percent reduction of GHG emissions in 2016. California implements the Pavley I standards through a waiver granted to California by the US EPA.

Low Carbon Fuel Standard: (LCFS) established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25 percent in 2011 and culminating in a 10-percent total reduction in 2020.[24] Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products, or buy LCFS credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas, and hydrogen.[25]

Senate Bill 1505: (Health and Safety Code Sections 43868 and 43869) requires, on a statewide basis, at least 33.3 percent of hydrogen produced for, or dispensed by fueling stations that receive state funds, be from renewable resources once production of hydrogen in the state reaches 3,500 metric tons per year.

Senate Bill 1389: (Public Resources Code Sections 25300–25323; SB 1389) requires the development of an integrated plan for electricity, natural gas, and transportation fuels. The CEC must adopt and transmit to the Governor and Legislature an Integrated Energy Policy Report (IEPR) every two years. Investor owned utilities (IOUs) forecast improvements to the electric grid to accommodate the future energy demand as part of the California Energy Commission's (CEC)

[23] California, Office of Governor Gavin Newsom. 2020, Septemb23. Executive Order N-79-20. https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-text.pdf

[24] California Air Resources Board, 2016, February 2 (reviewed), Low Carbon Fuel Standard Program Background. https://ww3.arb.ca.gov/fuels/lcfs/lcfs-background.htm.

[25] California Air Resources Board, 2016, February 2 (reviewed), Low Carbon Fuel Standard Program Background. https://ww3.arb.ca.gov/fuels/lcfs/lcfs-background.htm.

biennial IEPR. As identified in the 2019 IEPR, California is aggressively pursuing the deployment of ZE vehicles through regulations administered by CARB (e.g. the Advanced Clean Cars rulemaking and the Innovative Clean Transit Regulation) and incentives (such as the Clean Vehicle Rebate Project and the Low Carbon Transportation Program). The report contains an integrated assessment of major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors. The report provides policy recommendations to conserve resources, protect the environment, ensure reliable, secure, and diverse energy supplies, enhance the state's economy, and protect public health and safety. [26]

3.2.2.2.1 California Air Resources Board

Advanced Clean Car Program: Closely associated with the Pavley regulations, the Advanced Clean Cars emissions-control program was approved by CARB in 2012.[27] The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025.[28] The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission (ZE) vehicle regulation, which requires manufacturers to produce an increasing number of pure ZE vehicles (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[29]

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling: (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435), was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuel used by the vehicle.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles: Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025, was adopted to reduce diesel particulate matter (DPM), nitrogen oxides ($NO_{x)}$, and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission- controlled models would use petroleum-based fuel in a more efficient manner.

[26] California Energy Commission (CEC). Integrated Energy Policy Report (IEPR). https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report

[27] California Air Resources Board, 2020, January 6 (accessed). California's Advanced Clean Cars Program, www.arb.ca.gov/msprog/acc/acc.htm

[28] California Air Resources Board, 2020, January 6 (accessed). California's Advanced Clean Cars Program, www.arb.ca.gov/msprog/acc/acc.htm

[29] California Air Resources Board, 2020, January 6 (accessed). California's Advanced Clean Cars Program. www.arb.ca.gov/msprog/acc/acc.htm

3.3 HAZARDOUS MATERIALS AND SOLID AND HAZARDOUS WASTE

By incentivizing the transition from gasoline and diesel fueled vehicles to NZE and ZE vehicles, the proposed project would decrease the use of lead acid batteries used in conventional vehicles but would increase the use of nickel metal hydride (NiMH), nickel cadmium (NiCad), and lithium ion (Li-ion) batteries and fuel cells during the operational phase. The increase in NiMH, NiCad, and Li-ion batteries and in fuel cells is due to WAIRE menu implementation actions related to acquiring and/or using ZE trucks, ZE yard trucks, and solar panel systems. These batteries and fuel cells would need to be disposed of or recycled and could therefore have impacts associated with hazardous waste. The spent batteries and fuel cells could exceed the capacity of local recycling infrastructure or have hazardous waste impacts associated with disposal of the batteries and fuel cells. This section summarizes the most relevant laws and regulations associated with these impacts.

3.3.1 Disposal of Hazardous Spent Batteries and Fuel Cells

Gasoline and diesel fueled vehicles commonly run on lead acid batteries found in conventional automobiles and trucks. Lead-acid batteries are considered hazardous waste and are disposed of and processed by the lead recycling industry. These batteries are not sent to municipal landfills. The most common battery types available for zero emission (ZE) vehicles are Li-ion batteries. ZE vehicles use NiMH and NiCad batteries to a lesser extent. The most common type of fuel cell for hydrogen fueled vehicles is the polymer electrolyte membrane (PEM) fuel cell. Lead-acid based batteries and Li-ion batteries are most used for the type of solar panel applications associated with the proposed project.

Quemetco recycles lead-acid batteries and is located in South Coast AQMD's jurisdiction. Quemetco processes about 600 tons of spent batteries per day and is seeking to increase its allowed capacity to 750 tons/day.[1] The Notice of Preparation and Initial Study for the Quemetco Capacity Upgrade Project was release by South Coast AQMD on August 30, 2018.[2] Quemetco had already assessed the need for a throughput increase prior to that time. Therefore, the planned upgrade is not in anticipation of any increased lead battery recycling needs resulting from the proposed project.

There are a few companies serving the North America market with the established technology and capacity to process NiMH, NiCad, and Li-ion batteries. Umicore, Glencore, Retriev Technologies (previously known as Toxco), and Battery Solutions recycle both NiMH and Li-ion batteries. While Inmetco only recycles NiMH batteries and LiCycle recycles Li-ion batteries. Retriev Technologies also recycles NiCad batteries.

Umicore is a significant player in Europe in terms of capacity. It is the only company with European operations that accepts deliveries of EV batteries for recycling from North America.

[1] Batteries International, September 27, 2018, Quemetco Plans to Increase Lead Battery Recycling by 25%, https://www.batteriesinternational.com/2018/09/27/quemetco-plans-to-increase-lead-battery-recycling-by-25/#:~:text=The%20Quemetco%20Capacity%20Upgrade%20Project,from%2020%20hours%20a%20day, accessed January 5, 2021.

[2] South Coast Air Quality Management Board, August 30, 2018, The Notice of Preparation of a Draft Environmental Impact Report for the Quemetco Capacity Upgrade Project, http://www.aqmd.gov/docs/default-source/ceqa/documents/permit-projects/2018/2018-quemetco-nop_is-august-30_2018.pdf, accessed January 23, 2021.

Umicore is a global mining and metallurgy company working on EV battery recycling as well as recycling of other large quantities of metal waste. As a mining company, it sees EV batteries as a critical source of cobalt and is recycling EV batteries in its industrial-scale pilot plant in Europe, which has a rated capacity of approximately 7,000 tons/year. Sudbury Integrated Nickel Operations (INO), a subsidiary company of global mining company Glencore, operates a large nickel and copper smelter in Sudbury, Ontario. While Sudbury INO has historically processed mostly small portable batteries, it is now handling large format EV batteries as well. EV batteries do not represent a significant percentage of what Sudbury INO processes, but are a niche market that it wants to grow. Retriev is one of the largest EV battery recyclers in North America, receiving all types of EV batteries and chemistries and directing them to its two recycling facilities depending on location and capacity. Retriev has recycling facilities in British Columbia, Canada, and in Ohio. Retriev Technologies appears to be the most widely used recycler by companies that sell hybrids and EVs in North America and has a Li-ion recycling capacity of 9,500 tons/year. Battery Solutions, based in Wixom, Michigan, recycles several types of batteries, including portable batteries, stationary and backup batteries, special purpose batteries, and EV batteries. The company has its own fleet and a nationwide network of more than 200 service providers who can provide on-site service, removal, packaging, and transportation and recycling. Once picked up, EV batteries are disassembled in a way that ensures that each piece of the battery, including the housing, electronics, and wiring are separated and recycled in a compliant manner. Additionally, Inmetco, located in Ellwood City, Pennsylvania, recycles nickel, chrome, and iron from NiMH batteries. Inmetco has an approximate rated capacity of 6,000 tons/year.[3] Li-Cycle is North America's largest capacity lithium-ion battery recycling company. Li-Cycle's facility in Rochester, New York has the capacity to process up to 5,000 tons of spent Li-ion batteries per year. The company's second facility in Ontario, Canada has a recycling capacity of another 5,000 tons/year.[4]

Ballard Power Systems recycles the membrane electrode assembly (MEA) from fuel cells. Typically, more than 95 percent of the precious metals in the MEA are reclaimed during this process. The remainder of components in a fuel cell stack are recycled using ordinary recycling processes.[5]

3.3.2 Battery Recycling Regulations and Plans

Hazardous waste regulations are enforcement by CalEPA's Department of Toxic Substances Control (DTSC).

[3] Kelleher Environmental, September 2019, Research Study on Reuse and Recycling of Batteries Employed in Electric Vehicles, https://www.api.org/~/media/Files/Oil-and-Natural-Gas/Fuels/Kelleher%20Final%20EV%20Battery%20Reuse%20and%20Recycling%20Report%20to%20API%2018Sept2019%20edits%2018Dec2019.pdf, accessed January 5, 2021.

[4] Cision PR Newswire, Dec 02, 2020, Li-Cycle Announces Commercial Lithium-ion Battery Recycling Plant Now Operational in Rochester, New York, https://www.prnewswire.com/news-releases/li-cycle-announces-commercial-lithium-ion-battery-recycling-plant-now-operational-in-rochester-new-york-301183716.html, accessed January 9, 2021.

[5] Ballard, 2017, Recycling PEM Fuel Calls, https://www.ballard.com/docs/default-source/web-pdf's/recycling-technical-note_final.pdf, accessed January 5, 2021.

3.3.2.1 Federal Regulations and Plans

Mercury-Containing and Rechargeable Battery Management Act (Battery Act): On May 13, 1996, President Clinton signed into law the Mercury-Containing and Rechargeable Battery Management Act (Battery Act). Congress passed the Battery Act to facilitate the increased collection and recycling of NiCad and certain Small Sealed Lead Acid (SSLA)[6] rechargeable batteries. The Battery Act targets battery and product manufacturers and battery waste handlers, not consumers. Different sections of the Battery Act apply to different types of batteries. Specifically, the Battery Act:

- Establishes national, uniform labeling requirements for NiCad and certain SSLA rechargeable batteries.
- Mandates that NiCad and certain SSLA rechargeable batteries be ˈeasily removableˈ from consumer products.
- Makes the Universal Waste Rule effective in all 50 states for the collection, storage, and transportation of batteries covered by the Battery Act.
- Requires the U.S. EPA to establish a public education program on battery recycling and the proper handling and disposal of used batteries.
- Prohibits, or otherwise conditions, the sale of certain types of mercury-containing batteries in the United States.[7]

The Battery Act requires NiCad and SSLA batteries be labeled with a recycling symbol. NiCad batteries must be labeled with the words "NiCad" and the phrase "Battery must be recycled or disposed of properly." Lead-acid batteries must be labeled with the words "Lead," "Return," and "Recycle."

Resource Conservation and Recovery Act: The generation, transportation, treatment, storage, and disposal of batteries is conducted in compliance with the Resource Conservation and Recovery Act (RCRA) (Code of Federal Regulations [CFR], Title 40, Parts 239 through 282). Generators of spent batteries have two options for on-site handling and disposal under the regulations of the RCRA:

- Manage as a universal waste pursuant to the requirements of 40 CFR Part 273
- Manage per the regulations created for the reclamation of spent lead acid batteries: 40 CFR Part 266, Subpart G. These regulations are related to the handling and disposal of spent lead acid batteries that are destined for reclamation and not disposal.

In California, the U.S. EPA has delegated RCRA enforcement to CalEPAˈs Department of Toxic Substances Control (DTSC).

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[6] Small sealed lead acid batteries are used in emergency lighting, security and alarm systems, computer backup devices, and hospital equipment. They are also used in cellular phones, laptop computers, and power tools and do not apply to the proposed project.

[7] U.S. Environmental Protection Agency, November 1997, Implementation of the Mercury-Containing and Rechargeable Battery Management Act, https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=10000MXZ.TXT, Accessed December 21, 2020.

Federal Universal Waste Rule: In May 1995, the U.S. EPA promulgated the Universal Waste Rule to reduce the amount of hazardous waste entering the municipal solid waste stream, encourage the recycling and proper disposal of certain common hazardous waste, and reduce the regulatory burden on businesses that generate these wastes by simplifying the applicable regulations and making them easier to comply with. This rule recognizes that some common hazardous waste, such as used NiCad rechargeable batteries, do not require the full array of hazardous waste regulatory requirements. It also eases the regulatory burden on battery handlers and transporters by streamlining a number of RCRA's hazardous waste collection and management requirements, including those related to notification, labeling/marking, accumulation time limits, employee training, and offsite shipment, among others. [8]

3.3.2.2 State Regulations and Plans

The Rechargeable Battery Recycling Act: The Rechargeable Battery Recycling Act of 2006 required every retailer, as defined, to have in place a system for the acceptance and collection of used rechargeable batteries for reuse, recycling, or proper disposal. Existing law requires the system for the acceptance and collection of used rechargeable batteries to include, at a minimum, specified elements, including, among others, the take-back at no cost to the consumer of a used rechargeable battery of the type or brand that the retailer sold or previously sold. Existing law defines 'rechargeable battery' to mean a small, nonvehicular, rechargeable nickel-cadmium, nickel metal hydride, lithium-ion, or sealed lead-acid battery, or a battery pack containing these types of batteries.

AB 2382 - Recycling lithium-ion vehicle batteries: advisory group: AB 2832 requires the Secretary for Environmental Protection to convene the Lithium-Ion Car Battery Recycling Advisory Group to review and advise the legislature on policies pertaining to the recovery and recycling of lithium-ion batteries sold with motor vehicles in the state. The bill requires the advisory group to consult with specified entities and, on or before April 1, 2022, to submit policy recommendations to the legislature aimed at ensuring that as close to 100 percent as possible of lithium-ion batteries in the state are reused or recycled at end-of-life in a safe and cost-effective manner. The bill would repeal these provisions on January 1, 2027.

The advisory board is being led by CalEPA, DTSC, and the Department for Resources Recycling and Recovery (CalRecycle). Additional members come from the environmental community, auto dismantlers, public and private representatives involved in the manufacturing, collection, processing and recycling of electric vehicle batteries, and other interested parties. The advisory group was formed in 2019 and in December 2020 established a draft work plan. The work plan states that policy recommendations shall reflect entire life cycle considerations for lithium-ion vehicle batteries, including, but not limited to the following:

- Opportunities and barriers to the reuse of those batteries as energy storage systems after they are removed from the vehicle.
- Best management considerations for those batteries at end-of-life.
- The overall effect of different management practices on the environment.

[8] U.S. Environmental Protection Agency, November 1997, Implementation of the Mercury-Containing and Rechargeable Battery Management Act, https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=10000MXZ.TXT, Accessed December 21, 2020.

In developing the policy recommendations, the advisory group shall consider both in-state and out-of-state options for the recycling of lithium-ion vehicle batteries.

The work plan proposes three subgroups to the advisory group. These subgroups will work simultaneously and be comprised of advisory group members. The goal of the subgroups is to portion the work of the larger advisory group into more manageable loads, while facilitating more frequent meetings and discussions within the smaller bodies. The three proposed subgroups, along with their draft scopes and definitions, are as follows:

- Reuse: May refer to cases where the batteries are reused in another vehicle or repurposed for other applications, such as stationary energy storage.
- Recycling: Material recovery via mechanical separation, pyrometallurgical and/or hydrometallurgical recycling processes.
- Logistics: Encompasses removal of batteries from vehicles, testing to determine appropriate next use (reuse in vehicle, stationary storage, or material recovery), collection and sorting, transportation, and tracking.[9,10]

The Hazardous Waste Control Act (HWCA): The HWCA created the state's Hazardous Waste Management Program, which is similar to, but more stringent than, the federal RCRA program. The act is implemented by regulations contained in Title 26 of the California Code of Regulations (CCR), which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the HWCA and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator, to transporter, to the ultimate disposal location. Copies of the manifest must be filed with DTSC.[11]

California's Universal Waste Rule (CCR, Title 22, Section 66273.2): California's Universal Waste Rule allows individuals and businesses to transport, handle and recycle certain common hazardous waste, termed universal wastes, in a manner that differs from the requirements for most hazardous waste. This includes lead-acid ,NiCad batteries, and Li-ion batteries. Universal waste may not be sent to a municipal solid waste (garbage) landfill or to a nonhazardous waste recycling center.

The Lead-Acid Battery Recycling Act (Assembly Bill (AB) 2153): The Lead-Acid Battery Recycling Act created a state mandated lead-acid battery fee that serves as a funding mechanism for clean-up of areas that have been contaminated by the production and recycling of lead acid

[9] CalEPA, 2021, Lithium-ion Car Battery Recycling Advisory Group, https://calepa.ca.gov/climate/lithium-ion-car-battery-recycling-advisory-group/, accessed January 8, 2021.

[10] CalEPA, 2021, AB 2832 Advisory Group: Draft Work Plan - Working Draft for Discussion Dec. 14, 2020, https://calepa.ca.gov/climate/lithium-ion-car-battery-recycling-advisory-group/draft-workplan-for-discussion-on-12-14-20-by-the-lithium-ion-car-battery-recycling-advisory-group/, accessed January 8, 2020.

[11] South Coast Air Quality Management District, January 2017, Final Program Environmental Impact Report for the 2016 Air Quality Plan, http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf, accessed December 21, 2020.

batteries. AB 2153 also represents a collaborative effort to codify an effective consumer recycling program for lead-acid batteries. Consumers are charged a refundable deposit as part of the purchase to encourage return of their spent battery for environmental recycling.

Requirements for Management of Spent Lead-Acid Storage Batteries (CCR, Title 22, Sections 66266.80 and 66266.81): The regulations addressing used lead-acid battery management are found in 22 CCR Sections 66266.80 and 66266.81. Generators of lead-acid batteries include vehicle owners, garages, parts stores and service stations, as well as other businesses and factories that generate dead or damaged batteries. Entities that generate no more than 10 batteries per year, or store or transport no more than 10 batteries at one time, are not subject to the reporting and record keeping requirements given in the battery regulations as long as the batteries are transported to a facility that stores, recycles, uses, reuses ,or reclaims them. This also applies to trade-ins. Persons or businesses that generate more than 10 batteries per year, or who store or transport more than 10 at one time, must keep records about the batteries as described in 22 CCR Section 66266.81.

3.4 TRANSPORTATION

Under CEQA, potentially significant transportation impacts may occur if a project is inconsistent with adopted transportation programs, plans, or policies that address the circulation system and multimodal travel. This would include short- and long-range transportation plans, including pedestrian, bicycle, equestrian, and transit plans (also referred to as active transportation plans, non-motorized plans, or complete street plans), and the Southern California Association of Governments' (SCAG's) 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

In the past, CEQA documents also analyzed whether a project would increase traffic congestion, e.g., by negatively impacting the 'level of service' at intersections, or otherwise delaying travel times. In 2013, the legislature changed how agencies are to analyze transportation impacts. Now, instead of looking at these indicators of congestion, lead agencies must consider whether a project will significantly increase 'vehicle miles travelled' or 'VMT'. The purpose of this shift was to ensure that transportation analysis focuses on the environmental impacts associated with increased vehicle traffic, rather than the traffic itself. Thus, VMT transportation criteria are designed to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. The Office of Planning and Research (OPR) has developed a technical advisory, based on VMT, that lead agencies may use in analyzing transportation impacts. This EA relies on the OPR Technical Advisory for evaluating transportation impacts of the proposed project.

3.4.1 Transportation Regulations and Plans

Several state and regional laws have been enacted to regulate transportation planning, reduction of VMT, and compliance with regional transportation-related air quality standards. The most relevant transportation laws and regulations and plans prepared to implement them are summarized in this section.

3.4.1.1 Federal Regulations

Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991: The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 seeks 'to develop a National Intermodal Transportation System that is economically efficient, environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner.' The ISTEA imposes planning and regulatory requirements on states and cities in developing transportation plans and programs. There have been additional federal planning laws enacted since ISTEA. Specifically, subsequent federal regulations regarding transportation infrastructure include the Transportation Equity Act for the 21st Century (TEA-21) in 1998 and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005.

Moving Ahead for Progress in the 21st Century Act (MAP-21): MAP-21 was signed into law by President Obama on July 6, 2012. The act transformed the policy and programmatic framework for investments to the transportation system to guide growth and development. MAP-21 created a streamlined and performance-based surface transportation program and builds on many of the

highway, transit, bike, and pedestrian programs and policies established in 1991.[1] The act included provisions to address challenges facing the U.S. transportation system, including improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery.[2]

Fixing America's Surface Transportation Act or (FAST Act): On December 4, 2015, President Obama signed into law Public Law 114-94, the Fixing America's Surface Transportation Act (FAST Act). The FAST Act funds surface transportation programs, including, but not limited to, Federal-aid highways, at over $305 billion for fiscal years (FY) 2016 through 2020. The FAST Act builds on the changes made by MAP-21.[3]

3.4.2 State Regulations and Plans

CARB's Mobile Source Strategy: The 2016 Mobile Source Strategy (2016 Strategy) was CARB's first integrated planning effort looking specifically at mobile sources to identify complementary policies to reduce emissions of criteria pollutants, greenhouse gases (GHGs), and toxic air contaminants (TACs). The California Legislature passed Senate Bill (SB) 44, acknowledging the ongoing need to evaluate opportunities for mobile source emissions reductions and requiring CARB to update the 2016 Strategy by January 1, 2021, and every five years thereafter. Specifically, SB 44 requires CARB to update the 2016 Strategy to include a comprehensive strategy for the deployment of medium and heavy-duty vehicles for the purpose of meeting air quality standards and reducing GHG emissions. It also directs CARB to set reasonable and achievable goals for reducing emissions by 2030 and 2050 from medium- and heavy-duty vehicles that are consistent with the State's overall goals and maximizes the reduction of criteria air pollutants. The 2020 Mobile Source Strategy (2020 Strategy) continues this multi-pollutant planning approach to determine the pathways forward for the various mobile sectors that are necessary in order to achieve California's numerous goals and targets over the next 30 years.

State Transportation Improvement Program: The California Transportation Commission (CTC) administers the State Transportation Improvement Program, a multiyear capital improvement program of transportation projects on and off the state highway system, funded with revenues from the State Highway Account and other funding sources.

California Department of Transportation (Caltrans) Policies, Standards, Procedures, and Plans: Caltrans is the primary state agency responsible for transportation issues. One of its duties is the construction and maintenance of the state highway system. Caltrans approves the planning, design, and construction of improvements for all state-controlled facilities and has developed policies and procedures for the construction, design, and maintenance of such improvements. Caltrans has standards for roadway traffic flow and has developed procedures to determine if state-controlled facilities require improvements. For projects that may physically affect facilities under its administration, Caltrans requires encroachment permits before any construction work may be undertaken. Caltrans also prepares comprehensive planning documents, including corridor system

[1] Federal Highway Administration, November 7, 2018, MAP-21, https://www.fhwa.dot.gov/map21/, accessed January 9, 2021.

[2] Federal Highway Administration, July 2016, Fixing America's Surface Transportation Act or "FAST Act", https://www.fhwa.dot.gov/fastact/summary.cfm, accessed January 9, 2021.

[3] Federal Highway Administration, July 2016, Fixing America's Surface Transportation Act or "FAST Act", https://www.fhwa.dot.gov/fastact/summary.cfm, accessed January 9, 2021.

management plans and transportation concept reports, which are long-range planning documents that establish a planning concept for state facilities.

Senate Bill 743: On September 27, 2013, Senate Bill (SB) 743, which modifies how lead agencies analyze transportation impacts under CEQA, was signed into law. A key element is the potential elimination or deemphasizing of auto delay, Level of Service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of the state. According to the legislative intent of SB 743, these changes to current practice were necessary to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHG emissions. The Legislature found that, with adoption of the Sustainable Communities and Climate Protection Act of 2008 (SB 375), the state had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce VMT and thereby contribute to the reduction of GHG, as required by the California Global Warming Solutions Act of 2006, Assembly Bill (AB) 32. Additionally, AB 1358, described below, requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users.

SB 743 started a process that fundamentally changes transportation impact analysis as part of CEQA compliance. These changes include the elimination of auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as the basis for determining significant transportation impacts. In place of these thresholds OPR developed alternative metrics and thresholds based on VMT. These new thresholds were designed to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. New CEQA guidelines for analyzing transportation impacts were certified by the Secretary of the Natural Resources Agency in December 2018, and automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment. Agencies had until July 1, 2020, to implement the new VMT-based criteria.

AB 1358: California Complete Streets Act of 2008: The California Complete Streets Act of 2008 was signed into law on September 30, 2008. Beginning January 1, 2011, AB 1358 required circulation elements to address the transportation system from a multimodal perspective. The bill states that streets, roads, and highways must "meet the needs of all users…in a manner suitable to the rural, suburban, or urban context of the general plan." Essentially, this bill requires a circulation element to plan for all modes of transportation where appropriate—including walking, biking, car travel, and transit.

The Complete Streets Act also requires circulation elements to consider the multiple users of the transportation system, including children, adults, seniors, and the disabled. For further clarity, AB 1358 tasked OPR to release guidelines for compliance, which were released in December 2010.

SB 375: Sustainable Communities and Climate Protection Act: On December 11, 2008, the California Air Resources Board adopted its proposed Scoping Plan for AB 32, the Global Warming Act. This scoping plan included the approval of SB 375 as the means for achieving regional transportation related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks (e.g. pickup trucks) can help the state comply with AB 32.

There are five major components to SB 375. First, SB 375 addresses regional GHG emission targets. CARB's Regional Targets Advisory Committee guides the adoption of targets to be met by 2020 and 2035 for each metropolitan planning organization (MPO) in the state. These targets,

which MPOs may propose themselves, are updated every eight years in conjunction with the revision schedule of housing and transportation elements.

Second, MPOs are required to create a sustainable communities strategy (SCS) that provides a plan for meeting regional targets. The SCS and the regional transportation plan (RTP) must be consistent with each other, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an Alternative Planning Strategy (APS) that details an alternative plan to meet the target.

Third, SB 375 requires that regional housing elements and transportation plans be synchronized on eight-year schedules. In addition, Regional Housing Needs Assessment allocation numbers must conform to the SCS. If local jurisdictions are required to rezone land as a result of changes in the housing element, rezoning must take place within three years.

Fourth, SB 375 provides CEQA streamlining incentives for preferred development types. Residential or mixed-use projects qualify if they conform to the SCS. Transit-oriented developments also qualify if they 1) are at least 50 percent residential, 2) meet density requirements, and 3) are within one-half mile of a transit stop. The degree of CEQA streamlining is based on the degree of compliance with these development preferences.

Finally, MPOs must use transportation and air emission modeling techniques consistent with guidelines prepared by the CTC. Regional transportation planning agencies, cities, and counties are encouraged but not required to use travel demand models consistent with the CTC guidelines.

Recognizing the importance of measuring the benefits identified through SB 375 planning work, in 2017, the Legislature tasked CARB with issuing a report every four years analyzing the progress made under SB 375. The 2018 progress report found that California was not on track to meet greenhouse gas reductions expected under SB 375. This finding was based on CARB's analysis of 24 data-supported indicators to help assess what on-the-ground change has occurred since SB 375 was enacted related to strategies identified in SCSs to meet the targets. While positive gains have been made to improve the alignment of transportation, land use, and housing policies with state goals, the data suggest that more and accelerated action is critical for public health, equity, economic, and climate success.[4]

3.4.3 Regional Regulations and Plans

Southern California Association of Governments' Regional Transportation Plan and Sustainable Communities Strategy: SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is a long-range plan that provides a vision for transportation investments throughout the southern California region. The SCS integrates land use and transportation strategies that will achieve CARB's emissions reduction targets. SCAG is the metropolitan planning organization for a six-county region that includes South Coast AQMD's jurisdiction. The RTP/SCS is supported by a combination of transportation and land use strategies that are designed to help the region achieve state GHG emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety,

[4] California Air Resources Control Board, November 2018, 2018 Progress Report California's Sustainable Communities and Climate Protection Act, https://ww2.arb.ca.gov/sites/default/files/2018-11 /Final2018Report_SB150_112618_01_ExecutiveSummary.pdf, accessed January 10, 2021.

support the vital goods movement industry, and utilize resources more efficiently. The latest RTP/SCS, Connect SoCal, was completed and adopted in September 2020.

South Coast Air Quality Management District, Air Quality Management Plan: The 2016 AQMP is a regional blueprint for how the South Coast AQMD will achieve air quality standards and healthful air. The 2016 AQMP[5] contains multiple goals promoting reductions of criteria air pollutants, GHGs, and TACs. In particular, the 2016 AQMP states both oxides of nitrogen (NOx) and volatile organic compound (VOC) emissions need to be reduced to meet air quality standards, with emphasis that NOx emission reductions are more effective to reduce the formation of ozone and PM2.5. The South Coast AQMD has also initiated development of the 2022 AQMP that will focus on meeting the 70 ppb NAAQS for ozone by 2037.

3.4.4 Local Regulations and Plans

Orange County Transportation Authority Long Range Transportation Plan: The Orange County Transportation Authority (OCTA) Long Range Transportation Plan (LRTP) outlines the vision and plan for multimodal transportation in Orange County. OCTA prepares the LRTP and submits it to SCAG so that county transportation projects will be incorporated into the regional transportation plan and subsequently programmed into the Federal Transportation Improvement Program.

Orange County's Master Plan of Arterial Highways: The Master Plan of Arterial Highways (MPAH) was established in 1956 to ensure that a regional arterial highway network would be developed to supplement Orange County's developing freeway system. OCTA is responsible for administering the MPAH, including the review and approval of amendments. The MPAH map is a critical element of transportation planning and operations because it defines a countywide circulation system in response to existing and planned land uses. It is regularly updated to reflect changing development and traffic patterns.

Orange County's Districts 1 and 2 Bikeways Strategy (2013): OCTA's regional bikeways planning expanded the 2009 OCTA Commuter Bicycle Strategic Plan to identify potential regional bikeway improvements. The Districts 1 and 2 Bikeways Strategy identifies 11 regional bikeway corridors that connect to major activity centers, including employment areas, transit stations, and colleges and universities. The corridors include key connections to regional bikeway routes and major destinations within the districts.

OCTA's OC Transit Vision: The OC Transit Vision is a 20-year plan for enhancing and expanding public transit service in Orange County. Adopted in 2018, the Transit Vision focuses future investments along transit opportunity corridors on major arterials and freeways. The Transit Vision also supports improvements to rail service planned by Metrolink and other partner agencies, including plans to improve station access and reduce the number of at-grade road crossings.

San Bernardino Countywide Transportation Plan: The San Bernardino County Transportation Authority (SBCTA), formerly known as the San Bernardino Associated Governments (SANBAG), developed the County's Countywide Transportation Plan (CTP), which was released in September 2015. The plan has a horizon year of 2040 and serves as the County's input into the Southern California Associated Governments' (SCAG) RTP/SCS. The purpose of the CTP is to lay out a

[5] South Coast AQMD, Final 2016 Air Quality Management Plan, March 2017. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

strategy for long-term investment in and management of the County's transportation system. Key issues addressed by the CTP include transportation funding, congestion relief, economic competitiveness, system preservation and operations, transit system interconnectivity, air quality, sustainability, and GHG emission reductions.

San Bernardino County Non-Motorized Transportation Plan: The San Bernardino County Non-Motorized Transportation Plan was developed in March 2011, with the most recent update in June 2018. The goal of the plan is to develop an integrated plan and identify sources of funds to implement that plan to promote increased bicycle and pedestrian access, increased travel by cycling and walking, routine accommodation in transportation and land use planning, and improved bicycle and pedestrian safety. The plan lays out design guidelines, bikeway and pedestrian system recommendations, implementation strategies and priorities, and funding opportunities.

San Bernardino County Short-Range Transit Plan: SBCTA developed a Short-Range Transit Plan (SRTP) to help guide transit service improvements in the region over the next five years. The SRTP identifies transit service plans and help prioritize major capital improvement projects for the region's transit needs. Goals of the SRTP include connectivity between the various transit agencies in the County, facilitating transit travel between regions of the County and between the County and surrounding counties, and cost-effective accessibility programs for seniors and persons with disabilities. The SRTP was released in December 2016.

San Bernardino County Long-Range Transit Plan: SBCTA developed a Long-Range Transit Plan to address the County's current and future travel challenges and create a transportation system that can increase the role of transit in the future. The Long Ranch Transit Plan establishes a transit vision for the next 25 years, prioritizes goals and projects for transit growth, and prioritizes connecting land use and transportation strategies. The SRTP was released in April 2010.

San Bernardino Countywide Points of Interest Pedestrian Plan: SBCTA developed a Countywide Points of Interest Pedestrian Plan to assist member agencies with the development of tools and guidelines for identifying and prioritizing pedestrian improvements. The project's goals include connecting various SBCTA member agencies and synchronizing project planning and implementation, given that each agency has varying pedestrian accommodations, capital improvement programs, and maintenance regimes.

Riverside County Long-Range Transportation Study: The Riverside County Transportation Commission (RCTC) developed the first countywide Long-Range Transportation Study in December 2019. The Study provides a vision for what an integrated transportation system will look like in Riverside County in the next 20 years. The plan encompasses the state highway system, regional arterials, rail and bus, freight networks, and active transportation. The Study helps RCTC better prioritize and coordinate the different planning efforts across the county with state, regional, and local agencies.[6,7]

[6] Riverside County Transportation Commission, Riverside County Long Range Transportation Study, December 2019, https://www.rctc.org/wp-content/uploads/2019/12/RCTC-Draft-LRTS-120119-GV22.pdf

[7] Riverside County Transportation Commission, Funding and Planning, 2020, https://www.rctc.org/funding-and-planning/

LA Metro 2020 Long Range Transportation Plan: The Los Angeles County Metropolitan Transportation Authority (LA Metro) adopted a 2020 LRTP that provides a detailed roadmap for how LA Metro will plan, build, operate, maintain, and partner for improved mobility in the next 30 years. The LRTP guides future funding plans and policies needed to move LA County forward for a more mobile, resilient, accessible, and sustainable future. The LRTP was adopted by the Metro Board of Directors on September 24, 2020.[8]

LA Metro Active Transportation Strategic Plan: LA Metro's Active Transportation Strategic Plan focuses on enhancing access to transit stations and developing a regional network for people who choose to take transit, walk, and/ or bike. LA Metro initiated this process with the Bicycle Transportation Strategic Plan in 2006. There are three main components to the plan:

- First last mile station area access improvements
- A regional active transportation network
- Support Programs, including performance metrics and monitoring

The purpose of the plan is to serve as a roadmap for stakeholders and partners to help identify transportation concepts and changes and helps the region respond to regional and state regulations for the development of the transportation system and reductions in greenhouse gas emissions, including the development of Complete Streets networks.[9]

LA Metro Vision 2028 Plan: The Metro Vision 2028 Plan is the agency-wide strategic plan that creates the foundation for transforming mobility in Los Angeles County over the next 10 years. Based on more than a year of outreach, it sets the mission, vision, performance outcomes, and goals for LA Metro and puts in motion specific initiatives and performance outcomes towards which LA Metro and its partners will strive in pursuit of a better transportation future. LA Metro's vision is composed of three elements:

- Increased prosperity for all by removing mobility barriers.
- Swift and easy mobility throughout LA County, anytime.
- Accommodating more trips through a variety of high-quality mobility options.[10]

Los Angeles County Goods Movement Strategic Plan: LA Metro initiated the Los Angeles County Goods Movement Strategic Plan in November 2018 to develop a stakeholder supported vision and guiding principles that facilitate a sustainable goods movement transportation system throughout the County. The plan aims to develop policies and strategies consistent with Metro's Vision 2028 Plan.

The plan outlines policies that support a competitive global economy, and steward equitable and sustainable investments and technological innovation that will advance environmental goals for County residents. The plan lays out the following goods movement core values and priorities: Equity and Sustainability, Safe and Efficient Multimodal System, Culture of Investment and

[8] Los Angeles County Metropolitan Transportation Authority, Long Range Transportation Plan, 2019, https://www.metro.net/projects/lrtp/

[9] Los Angeles County Metropolitan Transportation Authority, Active Transportation Strategic Plan, https://www.dropbox.com/s/wjsbprvwlvza6gr/ATSP%20Volume%20I,%20II,III.pdf?dl=0

[10] Los Angeles County Metropolitan Transportation Authority, The Metro Vision 2028 Plan Executive Summary, April 216, http://media.metro.net/about_us/vision-2028/Metro_Vision2028_Plan_ExecSummary_ENG.pdf

Innovation, Strong Markets and Reliable Supply Chains, and Strong Labor Force. These core values and priorities were developed to establish comprehensive approaches in addressing a myriad of interconnected freight-related challenges witnessed across the County and will serve as guiding principles for LA Metro's goods movement planning activities to improve quality of life while supporting economic sustainability and prosperity.[11]

[11] LA Metro, 2019, Goods Movement Strategic Plan, https://www.metro.net/projects/goods-movement-strategic-plan/, accessed January 10, 2021.

3.5 OTHER IMPACT AREAS

The existing setting for other impact areas, including Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Land Use and Planning, Noise, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems, is incorporated by reference from the CARB Advanced Clean Trucks Regulation (ACT) Final Environmental Analysis. These impact areas are only relevant to this EA to the extent they may be impacted by potential future construction of new manufacturing and recycling facilities, and grid improvements to support the transition to NZE and ZE vehicles. Because it is uncertain how many new facilities would be built, where they would be built, and whether the local land use permitting authority would require mitigation, it is not possible to analyze the specific, potential impacts of this new development.

Nonetheless, CARB provided a general analysis of these impacts in its Final EA for the ACT Regulations. These regulations require truck manufacturers to sell medium-and heavy-duty ZE vehicles as an increasing percentage of California sales. The Final EA described the potential for these regulations to result in the construction of new manufacturing, recycling, and other facilities in this way:

> "Reasonably foreseeable compliance responses under this measure would include an increase in manufacturing and associated facilities to increase the supply of ZEVs, along with construction of new hydrogen fueling stations and battery electric vehicle (BEV) charging stations to support ZEV operations. Increased deployment of ZEVs could increase production of electricity and hydrogen fuel, reduce rates of oil and gas extraction, and result in associated increases in lithium and platinum mining and exports from sources countries or other states. Increased demand for lithium-ion batteries could increase production and manufacture, which could result in the expansion of or construction of new facilities along with associated increases in lithium mining and exports from source countries or other states. Disposal of any portion of vehicles, including batteries, would be subject to and have to comply with existing laws and regulations governing solid and hazardous waste, such as California's Hazardous Waste Control law, and implementing regulations, such as the Universal Waste Rule (22 California Code of Regulations (CCR) Chapter 23). That is, disposal of used batteries into solid waste landfills is prohibited; however, they could be refurbished, reused or disposed of as hazardous waste. To meet an increased demand of refurbishing or reusing batteries, new facilities or modifications to existing facilities are anticipated to accommodate battery recycling activities. Fleet turnover would be largely unaffected because the proposed sales requirement applies at time of new vehicle sales." (CARB ACT Final EA, pp. 19-20.)

The Final EA for the ACT Regulation further noted that "CARB does not have the ability to determine specific projects or locations, facility size and character, or site-specific environmental characteristics affected by any potential future facilities" (CARB ACT Final EA, pp. 19-20). Nonetheless:

> "This Final EA takes a conservative approach and considers some environmental impacts as potentially significant because of the inherent uncertainties in the

> relationship between physical actions that are reasonably foreseeable under the Proposed Project and environmentally sensitive resources or conditions that may be affected. This approach tends to overstate environmental impacts considering these uncertainties and is intended to satisfy the good-faith, full-disclosure intention of CEQA. If specific projects are proposed and subjected to project-level environmental review, it is expected that many of the impacts recognized as potentially significant in the Final EA that are not already mitigated or avoided with this proposed project, can later be avoided or reduced to a less-than-significant level. If a potentially significant environmental effect cannot be feasibly mitigated with certainty, this Final EA identifies the impact as significant and unavoidable." (CARB ACT Final EA, pp. 19-20).

With respect to mitigation for any potential impacts resulting from development of new facilities, CARB's Final EA stated:

> "The Final Draft EA contains a degree of uncertainty regarding implementation of mitigation for potentially significant impacts. While CARB is responsible for adopting the Proposed Project, it does not have authority over all the potential infrastructure and development projects that could be carried out in response to the Proposed Project. Other agencies are responsible for the review and approval, including any required environmental analysis, of any facilities and infrastructure that are reasonably foreseeable, including any definition and adoption of feasible project-specific mitigation measures, and any monitoring of mitigation implementation. For example, local cities or counties must approve proposals to construct new facilities. Additionally, State and/or federal permits may be needed for specific environmental resource impacts, such as take of endangered species, filling of wetlands, and streambed alteration.
>
> Because CARB cannot predict the location, design, or setting of specific projects that may result and does not have authority over implementation of specific infrastructure projects that may occur, the programmatic analysis in the Final Draft EA does not allow for identification of the precise details of project-specific mitigation. As a result, there is inherent uncertainty in the degree of mitigation that would ultimately need to be implemented to reduce any potentially significant impacts identified in the Final Draft EA. Consequently, this Final Draft EA takes the conservative approach in its post-mitigation significance conclusions (i.e., tending to overstate the risk that feasible mitigation may not be sufficient to mitigate an impact to less than significant) and discloses, for CEQA compliance purposes, that potentially significant environmental impacts may be unavoidable, where appropriate. It is also possible that the amount of mitigation necessary to reduce environmental impacts to below a significant level may be far less than disclosed in this Final Draft EA on a case-by-case basis. It is expected that many potentially significant impacts of facility and infrastructure projects would be avoidable or mitigable to a less-than-significant level as an outcome of their project-specific environmental review processes." (CARB ACT Final EA, pp. 20).

CARB's Final EA then described the environmental and regulatory setting for each of the potential impact areas affected by the potential facility and infrastructure development in Attachment A of the Final EA. These settings are briefly summarized below

3.5.1 Aesthetics

The existing setting for aesthetic impacts is discussed on pages A-126 of Attachment A of the CARB ACT Final EA. Aesthetic value can be affected by visibility, which is directly related to the presence of airborne particles. Visibility-reducing particles consist of suspended particulate matter, a complex mixture of tiny particles consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. Particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

The visual character of California varies greatly related to topography and climate. The foothills form a transitional landform from the valley floor to the higher Sierra Nevada, Cascade, and Coast Ranges. The valley floor is cut by two rivers that flow west out of the Sierra Nevada and east out of the Coast Ranges. Irrigated agriculture land is the primary landscape in the Sacramento and San Joaquin Valleys, and the foothill landscape has been altered by grazing, mining, reservoir development, and residential and commercial development. The visual character of the state also varies dramatically from the north, which is dominated by forest lands, and the south, which is primarily residential and commercial development.

3.5.1.1 Regulatory Setting

Applicable laws and regulations associated with aesthetics and scenic resources are discussed in Table 3.5-1

Table 3.5-1
Applicable Laws and Regulations for Aesthetic Resources

Applicable Regulations	Description
Federal	
Federal Land Policy and Management Act of 1976 (FLPMA)	FLPMA is the enabling legislation establishing the Bureau of Land Management's (BLM's) responsibilities for lands under its jurisdiction. Section 102 (a) of the FLPMA states that "…the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values…" Section 103(c) identifies "scenic values" as one of the resources for which public land should be managed.
BLM Contrast Rating System	The contrast rating system is a systematic process used by BLM to analyze visual impacts of proposed projects and activities. It is primarily intended to assist BLM personnel in the resolution of visual impact assessment.
Natural Historic Preservation Act (NHPA)	Under regulations of the NHPA, visual impacts to a listed or eligible National Register property that may diminish the integrity of the property's "setting … [or] … feeling" in a way that affects the property's eligibility for listing may result in a potentially significant adverse effect. "Examples of adverse effects … include…: Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features." Title 36 Code of Federal Regulations (CFR) Part 800.5)

Table 3.5-1
Applicable Laws and Regulations for Aesthetic Resources

Applicable Regulations	Description
National Scenic Byways Program	Title 23, Sec 162 outlines the National Scenic Byways Program. This program is used to recognize roads having outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities through designation of road as: National Scenic Byways; All-American Roads; or Americaˈs Byways. Designation of the byways provides eligibility for Federal assistance for safety improvement, corridor management plans, recreation access, or other project that protect scenic, historical, recreational, cultural, natural, and archaeological resources.
State	
Ambient Air Quality Standard for Visibility-Reducing Particles	Extinction coefficient (measure of absorption of light in a medium) of 0.23 per kilometer — visibility of 10 miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent.
California Streets and Highway Code, Section 260 through 263 – Scenic Highways	The State Scenic Highway Program promotes protection of designated State scenic highways through certification and adoption of local scenic corridor protection programs that conform to requirements of the California Scenic Highway Program.
Local	
County and City Controls	Most local planning guidelines to preserve and enhance the visual quality and aesthetic resources of urban and natural areas are established in the jurisdictionˈs general plan. The value attributed to a visual resource generally is based on the characteristics and distinctiveness of the resource and the number of persons who view it. Vistas of undisturbed natural areas, unique or unusual features forming an important or dominant portion of a viewshed, and distant vistas offering relief from less attractive nearby features are frequently considered to be scenic resources. In some instances, a case-by-case determination of scenic value may be needed, but often there is agreement within the relevant community about which features are valued as scenic resources. In addition to federal and State designations, counties and cities have their own scenic highway designations, which are intended to preserve and enhance existing scenic resources. Criteria for designation are commonly included in the conservation/open space element of the city or county general plan.

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

3.5.2 Agricultural and Forestry Resources

The existing setting for aesthetic impacts is discussed on pages A-128 of Attachment A of the CARB ACT Final EA. The State maps and classifies farmland through the California Department

of Conservation Farmland Mapping and Monitoring Program (FMMP). Classifications are based on a combination of physical and chemical characteristics of the soil and climate that determine the degree of suitability of the land for crop production. The classifications under the FMMP are as follows:

- **Prime Farmland**—land that has the best combination of features to produce agricultural crops.
- **Farmland of Statewide Importance**—land other than Prime Farmland that has a good combination of physical and chemical features to produce agricultural crops, but that has more limitations than Prime Farmland, such as greater slopes or less ability to store soil moisture.
- **Unique Farmland**—land of lesser quality soils used to produce the state's leading agricultural cash crops.
- **Farmland of Local Importance**—land of importance to the local agricultural economy.
- **Grazing Land**—existing vegetation that is suitable for grazing.
- **Urban and Built-Up Land**—land occupied by structures in density of at least one dwelling unit per 1.5 acres.
- **Land Committed to Nonagricultural Use**—vacant areas; existing land that has a permanent commitment to development but has an existing land use of agricultural or grazing lands.
- **Other Land**— land not included in any other mapping category, common examples of which include low-density rural developments, brush, timber, wetland, and vacant and nonagricultural land surrounded on all sides by urban development.

CEQA Section 21095 and CEQA Guidelines Appendix G, together, define Prime, Unique, and Farmland of Statewide Importance as "Important Farmland," whose conversion may be considered significant. Local jurisdictions can further consider other classifications of farmland as important and can also use an agricultural land evaluation and site assessment (LESA) model to determine farmland importance and impacts from conversion.

As of 2012, California contained approximately 5 million acres of Prime Farmland; approximately 2.6 million acres of Farmland of Statewide Important; approximately 1.3 million acres of Unique Farmland; approximately 3.2 million acres of Farmland of Local Importance; and approximately 19.2 million acres of grazing land.

California produces over a third of the vegetables and two thirds of the fruits and nuts in the U.S. California's agricultural abundance includes more than 400 commodities and supplies 99 percent or more of the following to the U.S.: almonds, artichokes, dates, dried plums, figs, garlic, kiwifruit, olives and olive oil, pistachios, raisins, table grapes, and walnuts. In 2016, 76,700 farms operated in California, which is less than 1 percent less than in 2015. Over 27 percent of California farms generated commodity sales over $100,000, greater than the national average of 20 percent. The amount of land devoted to farming and ranching in California decreased slightly to 25.4 million acres in 2016. The average farm size was 331 acres in 2016, up from the 2015 farm size, but still below the national average of 442 acres.

Williamson Act. The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return,

landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. The Open Space Subvention Act of 1971 provided local governments an annual subvention of forgone property tax revenues from the state through the year 2009; these payments have been suspended in more recent years due to revenue shortfalls. Of California's 58 counties, 52 have executed contracts under the Land Conservation Act Program. The 14.8 million acres reported as enrolled in Land Conservation Act contracts statewide as of December 2015, represents approximately 50 percent of California's farmland total of about 30 million acres, or about 31 percent of the State's privately-owned land (California Department of Conservation).

Forestry Resources. Forestland is defined as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits (Public Resources Code (PRC) Section 12220(g)). There are 40,233,000 acres of forested land within California including oak woodlands and conifer forests (California Department of Fish and Wildlife). Timberland is privately-owned land, or land acquired for State forest purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, of, at minimum 15 cubic feet per acre (Government Code Section 51104(f)). Forest managed for harvest is called timberland and includes 2,932,000 acres in private ownership; 146,000 acres in State ownership; 10,130,000 acres in federal ownership; and 4,551,000 acres of non-industrial timberland in private ownership.

3.5.2.1 Regulatory Setting

Table 3.5-2 provides a general description of applicable laws and regulations that may pertain to agriculture and forest resources.

Table 3.5-2
Applicable Laws and Regulations for Agriculture and Forest Resources

Applicable Regulations	Description
Federal	
Farmland Protection Policy Act (FPPA)	The FPPA directs federal agencies to consider the effects of federal programs or activities on farmland, and ensure that such programs, to the extent practicable, are compatible with state, local, and private farmland protection programs and policies. The rating process established under the FPPA was developed to help assess options for land use on an evaluation of productivity weighed against commitment to urban development.

Table 3.5-2
Applicable Laws and Regulations for Agriculture and Forest Resources

Applicable Regulations	Description
National Forest Management Act (NFMA) of 1976	The NFMA is the primary statute governing the administration of national forests. The NFMA requires the Secretary of Agriculture to assess forest lands, develop a management program based on multiple-use, sustained-yield principles, and implement a resource management plan for each unit of the National Forest System. Goal 4 of the USFS's National Strategic Plan for the National Forests states that the nation's forests and grasslands play a significant role in meeting America's need for producing and transmitting energy. Unless otherwise restricted, National Forest Service lands are available for energy exploration, development, and infrastructure (e.g., well sites, pipelines, and transmission lines). However, the emphasis on non- recreational special uses, such as utility corridors, is to authorize the special uses only when they cannot be reasonably accommodated on non-National Forest Service lands.
State	
The California Land Conservation Act, also known as the Williamson Act (Government Code Section 51200 et seq.)	The Department of Conservation's Division of Land Resource Protection administers the Williamson Act program, which permits property tax adjustments for landowners who contract with a city or county to keep their land in agricultural production or approved open space uses for at least 10 years. Lands covered by Williamson Act contracts are assessed on the basis of their agricultural value instead of their potential market value under nonagricultural uses. In return for the preferential tax rate, the landowner is required to contractually agree to not develop the land for a period of at least 10 years. Williamson Act contracts are renewed annually for 10 years unless a party to the contract files for nonrenewal. The filing of a non-renewal application by a landowner ends the automatic annual extension of a contract and starts a 9- year phase-out of the contract. During the phase-out period, the land remains restricted to agricultural and open-space uses, but property taxes gradually return to levels associated with the market value of the land. At the end of the 9-year non- renewal process, the contract expires, and the owner's uses of the land are restricted only by applicable local zoning. he Williamson Act defines compatible use of contracted lands as any use determined by the county or city administering the agricultural preserve to be compatible with the agricultural, recreational, or open space use of land within the preserve and subject to contract (Government Code, Section 51201 (e)). However, uses deemed compatible by a county or city government must be consistent with the principles of compatibility set forth in Government Code, Section 51238.1. Approximately 16 million acres of farmland (about 50 percent of the State's total farmland) are enrolled in the program.

Table 3.5-2
Applicable Laws and Regulations for Agriculture and Forest Resources

Applicable Regulations	Description
California Farmland Conservancy Program (CFCP) (PRC Section 10200 et seq.)	The CFCP provides grant funding for agricultural conservation easements. Although the easements are always written to reflect the benefits of multiple resource values, there is a provision in the CFCP statute that prevents easements funded under the program from restricting husbandry practices. This provision could prevent restricting those practices to benefit other natural resources.
FMMP (Government Code Section 65570, PRC Section 612)	Under the FMMP, the Department of Conservation assesses the location, quality, and quantity of agricultural lands and conversion of these lands over time. Agricultural designations include the categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, and Other Land.
State Lands Commission Significant Land Inventory	The State Lands Commission is responsible for managing lands owned by the State, including lands that the State has received from the federal government. These lands total more than 4 million acres and include tide and submerged lands, swamp and overflow lands, the beds of navigable waterways, and State School Lands. The State Lands Commission has a legal responsibility for, and a strong interest in, protecting the ecological and Public Trust values associated with the State's sovereign lands, including the use of these lands for habitat preservation, open space, and recreation. Projects located within these lands would be subject to the State Lands Commission permitting process.
Local	
Open Space Element (Government Code Section 65300 et seq.)	State law requires each city and county to adopt a general plan containing at least seven mandatory elements including an open space element. The open space element identifies open space resources in the community and strategies for protection and preservation of these resources. Agricultural and forested lands are among the land use types identified as open space in general plans.
Zoning	The city or county zoning code is the set of detailed requirements that implement the general plan policies at the level of the individual parcel. The zoning code presents standards for different land uses and identifies which land uses (e.g., agriculture, residential, commercial, industrial) are allowed in the various zoning districts of the jurisdiction. Since 1971, State law has required the city or county zoning code to be consistent with the jurisdiction's general plan, except in charter cities.

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

3.5.3 Biological Resources

The existing setting for aesthetic impacts is discussed on pages A-137 of Attachment A of the CARB ACT Final EA. The state's geography and topography have created distinct local climates ranging from high rainfall in northwestern mountains to the driest place in North America, Death Valley. North to south, the state extends for almost 800 miles, bridging the temperate rainforests in the Pacific Northwest and the subtropical arid deserts of Mexico. Many parts of the state experience Mediterranean weather patterns, with cool, wet winters and hot, dry summers. Summer rain is indicative of the eastern mountains and deserts, driven by the western margin of the North American monsoon. Along the northern coast abundant precipitation and ocean air produces foggy, moist conditions. High mountains have cooler conditions, with a deep winter snowpack in normal climate years. Desert conditions exist in the rain shadow of the mountain ranges.

While the state is largely considered to have a Mediterranean climate, it can be further subdivided into six major climate types: Desert, Marine, Cool Interior, Highland, Steppe, and Mediterranean. California deserts, such as the Mojave, are typified by a wide range of elevation with more rain and snow in the high ranges, and hot, dry conditions in valleys. Cool Interior and Highland climates can be found on the Modoc Plateau, Klamath, Cascade, and Sierra ranges. Variations in slope, elevation, and aspect of valleys and mountains result in a range of microclimates for habitats and wildlife. For example, the San Joaquin Valley, exhibiting a Mediterranean climate, receives sufficient springtime rain to support grassland habitats, while still remaining hot and relatively dry in summer. Steppe climates include arid, shrub-dominated habitats that can be found in the Owens Valley, east of the Sierra Nevada, and San Diego, located in coastal southern California.

The Marine climate has profound influence over terrestrial climates, particularly near the coast. Additionally, the state is known for variability in precipitation because of the El Niño-Southern Oscillation (ENSO) and the Pacific Decadal Oscillation (PDO). Oscillations are the cyclical shifting of high and low-pressure systems, as evidenced by the wave pattern of the jet stream in the northern hemisphere. The ENSO is the cycle of air pressure systems influenced by the location of warm and cold sea temperatures. El Niño events occur when waters are warmer in the eastern Pacific Ocean, typically resulting in greater precipitation in southern California and less precipitation in northern California, and La Niña events occur when waters are colder in the eastern Pacific resulting in drier than normal conditions in southern California and wetter conditions in northern California during late summer and winter. The warmer ocean temperatures associated with El Niño conditions also result in decreased upwelling in the Pacific Ocean.

California has the highest numbers of native and endemic plant species of any state, with approximately 6,500 species, subspecies, and varieties of plants, representing 32 percent of all vascular plants in the United States. Nearly one-third of the state's plant species are endemic, and California has been recognized as one of 34 global hotspots for plant diversity. Within the California Floristic Province, which encompasses the Mediterranean area of Oregon, California, and northwestern Baja, 2,124 of the 3,488 species are endemic, representing a 61 percent rate of endemism. Over 200 species, subspecies, and varieties of native plants are designated as rare, threatened, or endangered by state law, and over 2,000 more plant taxa are considered to be of conservation concern.

California has a large number of animal species, representing a substantial proportion of the wildlife species nationwide. The state's diverse natural communities provide a wide variety of habitat conditions for wildlife. The state's wildlife species include approximately 100 reptile

species, 75 amphibian species, 650 bird species, and 220 mammal species. Additionally, 48 mammals, 64 birds, 72 amphibians and reptiles, and 20 freshwater fish live in California and nowhere else.

California exhibits a wide range of aquatic habitats from the Pacific Ocean to isolated hillside seeps, to desert oases that support both water-dependent species and provide essential seasonal habitat for terrestrial species. Perennial and ephemeral rivers and streams, riparian areas, vernal pools, and coastal wetlands support a diverse array of flora and fauna, including 150 animal and 52 plant species that are designated special-status species. The California Natural Diversity Database identifies 123 different aquatic habitat-types in California, based on fauna. Of these, 78 are stream habitat-types located in seven major drainage systems: Klamath, Sacramento-San Joaquin, North/Central Coast, Lahontan, Death Valley, South Coast, and Colorado River systems. These drainage systems are geologically separated and contain distinctive fishes and invertebrates. California has approximately 70 native resident and anadromous fish species, and 72 percent of the native freshwater fishes in California are either listed, or possible candidates for listing as threatened or endangered, or are extinct.

3.5.3.1 Regulatory Setting

Applicable laws and regulations associated with biological resources are discussed in Table 3.5-3.

Table 3.5-3
Applicable Laws and Regulations for Biological Resources

Applicable Regulations	Description
Federal	
Federal Endangered Species Act (ESA) (16 USC Section 1531 et seq.)	The ESA designates and provides for protection of threatened and endangered plant and animal species, and their critical habitat. Two sections of the ESA address take of threatened and endangered species. Section 7 covers actions that would result in take of a federally-listed species and have a federal discretionary action. Section 10 regulates actions that would result in take of threatened or endangered species and a non-federal agency is the lead agency for the action. Section 10 of the ESA requires preparation of a habitat conservation plan (HCP). More than 430 HCPs have been approved nation-wide (U.S. Fish and Wildlife Service).
Migratory Bird Treaty Act (MBTA) (16 USC Section 703 et seq.)	The MBTA makes it unlawful to take or possess any migratory nongame bird (or any part of such migratory nongame bird) as designated under the MBTA.
Clean Water Act (CWA) (33 USC Section 1251 et seq.)	The CWA requires the permitting and monitoring of all discharges to surface water bodies. Section 404 requires a permit from the U.S. Army Corps of Engineers (USACE) for a discharge from dredged or fill materials into Waters of the U.S., including wetlands. Section 401 requires a permit from a regional water quality control board (RWQCB) for the discharge of pollutants. By federal law, every applicant for a federal permit or license for an activity that may result in a discharge into a California water body, including wetlands, must request State certification that the proposed activity would not violate State and federal water quality standards.

Table 3.5-3
Applicable Laws and Regulations for Biological Resources

Applicable Regulations	Description
Rivers and Harbors Act of 1899	The Rivers and Harbors Act requires a permit or letter of permission from USACE prior to any work being completed within navigable waters.
U.S EPA Section 404 (b)(1) Guidelines	Section 404 requires USACE to analyze alternatives in a sequential approach such that USACE must first consider avoidance and minimization of impacts to the extent practicable to determine whether a proposed discharge can be authorized.
California Desert Conservation Area (CDCA) Plan	The CDCA Plan comprises one of two national conservation areas established by Congress in 1976. The FLPMA outlines how BLM would manage public lands. Congress specifically provided guidance for the management of the CDCA Plan and directed the development of the 1980 CDCA Plan.
Federal Noxious Weed Act of 1974 (P.L. 93-629) (7 USC 2801 et seq.; 88 Stat. 2148)	The Federal Noxious Weed Act establishes a federal program to control the spread of noxious weeds. Authority is given to the Secretary of Agriculture to designate plants as noxious weeds by regulation, and the movement of all such weeds in interstate or foreign commerce was prohibited except under permit.
Executive Order 13112, "Invasive Species," February 3, 1999	Executive Order 13112 mandates that federal agencies take actions to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause.
Executive Order 11988, "Floodplain Management," May 24, 1977	Executive Order 11988 requires federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.
Executive Order 11990, "Protection of Wetlands," May 24, 1977	Executive order 11990 requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.
Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds," January 10, 2001	Executive Order 13186 requires that each federal agency taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations develop and implement a Memorandum of Understanding (MOU) with USFWS that shall promote the conservation of migratory bird populations.
Bald and Golden Eagle Protection Act (16 USC Section 668 et seq.)	The Bald and Golden Eagle Protection Act declares it is illegal to take, possess, sell, purchase, barter, offer to sell or purchase or barter, transport, export or import a bald or golden eagle, alive or dead, or any part, nest or egg of these eagles unless authorized. Active nest sites are also protected from disturbance during the breeding season.

Table 3.5-3
Applicable Laws and Regulations for Biological Resources

Applicable Regulations	Description
BLM Manual 6840 — Special Status Species Management	This policy establishes special status species policy on BLM land for plant and animal species and the habitats on which they depend. The policy refers to species designated by the BLM State Director as sensitive.
Listed Species Recovery Plans and Ecosystem Management Strategies	These plans and strategies provide guidance for the conservation and management of sufficient habitat to maintain viable populations of listed species and ecosystems. Relevant examples include, but are not limited to, the Desert Tortoise Recovery Plan, Flat-tailed Horned Lizard Rangewide Management Strategy; Amargosa Vole Recovery Plan; and Recovery Plan for Upland Species of the San Joaquin Valley.
State	
California Endangered Species Act of 1984 (Fish and Game Code, section 2050 et seq.)	Protects California's rare, threatened, and endangered species.
Natural Community Conservation Planning (NCCP) Act 1991 (Fish and Game Code, section 2800 et seq.)	The primary objective of the NCCP Act is to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. There are currently 23 NCCPs that have been adopted or are in progress in California.
Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.)	The Porter-Cologne Water Quality Control Act requires that each of the nine RWQCBs prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards.
Keene-Nejedly California Wetlands Preservation Act (PRC Section 5810 et seq.)	California has established a successful program of regional, cooperative efforts to protect, acquire, restore, preserve, and manage wetlands. These programs include, but are not limited to, the Central Valley Habitat Joint Venture, the San Francisco Bay Joint Venture, the Southern California Wetlands Recovery Project, and the Inter-Mountain West Joint Venture.
California Wilderness Act (PRC Section 5093.30 et seq.)	The California Wilderness Act establishes a California wilderness preservation system that consists of State-owned areas to be administered for the use and enjoyment of the people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, provide for the protection of such areas, preserve their wilderness character, and provide for the gathering and dissemination of information regarding their use and enjoyment as wilderness.

Table 3.5-3
Applicable Laws and Regulations for Biological Resources

Applicable Regulations	Description
Significant Natural Areas (Fish and Game Code section 1930 et seq.)	This policy designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitat.
Protection of Birds and Nests (Fish and Game Code sections 3503 and 3503.5)	These policies protect California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Raptors (e.g., hawks and owls) are specifically protected.
Migratory Birds (Fish and Game Code section 3513)	This policy protects California's migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame birds.
Fur-bearing Mammals (Fish and Game Code sections 4000 and 4002)	This policy lists fur-bearing mammals require a permit for take.
Fully Protected Species (Fish and Game Code sections 3511, 4700, 5050, and 5515)	These policies identify several amphibian, reptile, fish, bird, and mammal species that are Fully Protected. CDFW cannot issue a take permit for these species, except for take related to scientific research.
CEQA Guidelines Section 15380	CEQA defines rare species more broadly than the definitions for species listed under the State and federal Endangered Species Acts. Under Section 15830, species not protected through State or federal listing but nonetheless demonstrable as "endangered" or "rare" under CEQA should also receive consideration in environmental analyses. Included in this category are many plants considered rare by the California Native Plant Society and some animals on the CDFW's Special Animals List
Oak Woodlands (PRC Section 21083.4)	This policy requires counties to determine if a project within their jurisdiction may result in conversion of oak woodlands that would have a significant adverse effect on the environment. If the lead agency determines that a project would result in a significant adverse effect on oak woodlands, mitigation measures to reduce the significant adverse effect of converting oak woodlands to other land uses are required.
Lake and Streambed Alteration Agreement (Fish and Game Code section 1600 et seq.)	This policy regulates activities that may divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake in California designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit. Impacts to vegetation and wildlife resulting from disturbances to waterways are also reviewed and regulated during the permitting process.

Table 3.5-3
Applicable Laws and Regulations for Biological Resources

Applicable Regulations	Description
California Desert Native Plants Act of 1981 (Food and Agricultural Code Section 80001 et seq. and California Fish and Game Code sections 1925-1926)	The California Desert Native Plants Act protects non-listed California desert native plants from unlawful harvesting on both public and private lands in Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego counties. Unless issued a valid permit, wood receipt, tag, and seal by the commissioner or sheriff, harvesting, transporting, selling, or possessing specific desert plants is prohibited.
Food and Agriculture Code Section 403	CDFA is designated to prevent the introduction and spread of injurious insect or animal pests, plant diseases, and noxious weeds.
Noxious Weeds (Title 3, CCR Section 4500)	List of plant species that are considered noxious weeds.
Local	
Various City and County General Plans	General plans typically designate areas for land uses, guiding where new growth and development should occur while providing a plan for the comprehensive and long-range management, preservation, and conservation of and natural resources and open-space lands.
Various Local Ordinances	Local ordinances provide regulations for proposed projects for activities such as grading plans, erosion control, tree removal, protection of sensitive biological resources and open space.

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

3.5.4 Cultural Resources

The existing setting for aesthetic impacts is discussed on pages A-142 of Attachment A of the CARB ACT Final EA. Cultural resources include archaeological sites of prehistoric or historic origin, built or architectural resources older than 50 years, traditional or ethnographic resources, and fossil deposits of paleontological importance. America has a cultural heritage that dates to some 25,000–60,000 years ago, when the first known inhabitants of the land that would eventually become the U.S. crossed the Bering Land Bridge into Alaska.

All areas within the U.S. have the potential for yielding yet undiscovered archaeological and paleontological resources and undocumented human remains not interred in cemeteries or marked formal burials. These resources have the potential to contribute to our knowledge of the fossil record or local, regional, or national prehistory or history.

Archaeological resources include both prehistoric and historic remains of human activity. Built environment resources include an array of historic buildings, structures, and objects serving as a physical connection to America's past. Traditional or ethnographic cultural resources may include Native American sacred sites and traditional resources of any ethnic community that are important for maintaining the cultural traditions of any group. “Historical resources” is a term with defined statutory meaning and includes any prehistoric or historic archaeological site, district, built

environment resource, or traditional cultural resource recognized as historically or culturally significant (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)).

Paleontological resources, including mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains, are more than 5,000 years old and occur mainly in Pleistocene or older sedimentary rock units.

3.5.4.1 Prehistoric Overview

California was occupied by different prehistoric cultures dating to at least 12,000 to 13,000 years ago. Evidence for the presence of humans during the Paleoindian Period prior to about 8,000 years ago is relatively sparse and scattered throughout the state; most surface finds of fluted Clovis or Folsom projectile points or archaeological sites left by these highly mobile hunter-gatherers are associated with Pleistocene lakeshores, the Channel Islands, or the central and southern California coast. Archaeological evidence from two of the Northern Channel Islands located off the coast from Santa Barbara indicates the islands were colonized by Paleoindian peoples at least 12,000 years ago, likely via seaworthy boats. By 10,000 years ago, inhabitants of this coastal area were using fishhooks, weaving cordage and basketry, hunting marine mammals and sea birds, and producing ornamental shell beads for exchange with people living in the interior of the State. This is the best record of early maritime activity in the Americas, and combined with the fluted points, indicates California was colonized by both land and sea during the Paleoindian period.

With climate changes between 10,000 and 7,000 years ago at the end of the Pleistocene and into the early Holocene, Lower Archaic peoples adjusted to the drying of pluvial lakes, rise in sea level, and substantial alterations in vegetation communities. Approximately 6,000 years ago, vegetation communities like those of the present were established in the majority of the state, while the changes in sea level also affected the availability of estuarine resources. The archaeological record indicates subsistence patterns during the Lower Archaic and subsequent Middle Archaic Period shifted to an increased emphasis on plant resources, as evidenced by an abundance of milling implements in archaeological sites dating between 8,000 and 3,000 years ago.

Approximately 3,000 years ago, during the Upper Archaic and Late Prehistoric Periods, the complexity of the prehistoric archaeological record reflects increases in specialized adaptations to locally available resources such as acorns and salmon, in permanently occupied settlements, and in the expansion of regional populations and trade networks. During the Upper Archaic, marine shell beads and obsidian continue to be the hallmark of long-distance trade and exchange networks developed during the preceding period. Large shell midden/mounds at coastal and inland sites in central and southern California, for example, attest to the regular reuse of these locales over hundreds of years or more from the Upper Archaic into the Late Prehistoric period. In the San Francisco Bay region alone, over 500 shell mounds were documented in the early 1900s.

Changes in the technology used to pursue and process resources are some of the hallmarks of the Late Prehistoric period. These include an increase in the prevalence of mortars and pestles, a diversification in types of watercraft and fishhooks, and the earliest record for the bow and arrow in the State that occurs in both the Mojave Desert and northeast California nearly 2,000 years ago. The period also witnessed the beginning of ceramic manufacture in the southeast desert region, southwest Great Basin, and parts of the Central Valley.

During the Late Prehistoric period, the development of social stratification and craft specialization accompanied the increase in sedentism, as indicated by the variety of artifacts, including bone tools, coiled and twined basketry, obsidian tools, marine shell beads, personal ornaments, pipes, and rattles, by the use of clamshell disk beads and strings of dentalium shell as a form of currency, and by variation in burial types and associated grave goods. Pictographs, painted designs that are likely less than 1,000 years old, and other non-portable rock art created during this period likely had a religious or ceremonial function. Osteological evidence points to intergroup conflict and warfare in some regions during this period, and there also appears to have been a decline or disruption in the long-distance trade of obsidian and shell beads approximately 1,200 years ago in parts of the State.

3.5.4.2 Ethnographic Overview

At the time of European contact, California was the home of approximately 310,000 indigenous peoples with a complex of cultures distinguished by linguistic affiliation and territorial boundaries. At least 70 distinct native Californian cultural groups, with even more subgroups, inhabited the vast lands within the state. The groups and subgroups spoke between 74 and 90 languages, plus a large number of dialects.

In general, these mainly sedentary, complex hunter-gatherer groups of indigenous Californians shared similar subsistence practices (hunting, fishing, and collecting plant foods), settlement patterns, technology, material culture, social organization, and religious beliefs. Permanent villages were situated along the coast, interior waterways, and near lakes and wetlands. Population density among these groups varied, depending mainly on availability and dependability of local resources, with the highest density of people in the northwest coast and Santa Barbara Channel areas and the least in the state's desert region. Networks of foot trails were used to connect groups to hunting or plant gathering areas, rock quarries, springs or other water sources, villages, ceremonial places, or distant trade networks.

The social organization of California's native peoples varied throughout the state, with villages or political units generally organized under a headman who was also the head of a lineage or extended family or achieved the position through wealth. For some groups, the headman also functioned as the religious ceremonial leader. Influenced by their Northwest Coast neighbors, the differential wealth and power of individuals was the basis of social stratification and prestige between elites and commoners for the Chilula, Hupa, Karok, Tolowa, Wiyot, and Yurok in the northwest corner of the state. Socially complex groups were also located along the southern California coast where differential wealth resulted in hierarchical classes and hereditary village chiefs among the Chumash, Gabrielino, Juaneño, and Luiseño.

At the time of Spanish colonialization, there were numerous religious practices among native Californian groups. Many of the indigenous groups in the north-central part of the State practiced the Kuksu cult, practicing ceremonies and dances with a powerful shaman as the leader. Log drums, flutes, rattles, and whistles accompanied the elaborate ceremonial dances. The World Renewal cult in the northwestern corner of the State extended as far north as Alaska and was funded by the wealthy class. It entailed a variety of annual rites to prevent natural disasters and maintain natural resources and individual health. The Toloache cult was widespread in central and southern California and involved the use of narcotic plant materials (commonly known as datura or jimsonweed) to facilitate the acquisition of power. On the southern coast among Takic-speaking groups, the basis of Gabrielino, Juaneño and Luiseño religious life was the Chinigchinich cult,

which appeared to have developed from the Toloache cult. Chinigchinich, the last of a series of heroic mythological figures, gave instruction on laws and institutions, taught people how to dance, and later withdrew into heaven where he rewarded the faithful and punished those who disobeyed his laws. The Chinigchinich religion seems to have been relatively new when the Spanish arrived, and could have been influenced by Christianity.

Trade and exchange networks were a significant part of the economy and social organization among California's Native American groups. Obsidian, steatite, beads, acorns, baskets, animal skins, and dried fish were among the variety of traded commodities. Inland groups supplied obsidian from sources along the Sierra Nevada Mountains, in Napa Valley, and in the northeast corner of the state. Coastal groups supplied marine shell beads, ornaments, and marine mammal skins. In addition to trading specific items, clamshell disk beads made from two clam species available on the Pacific coast were widely used as a form of currency. In northwestern California, groups used strings of dentalium shell as currency.

The effect of Spanish settlement and missionization in California marks the beginning of a devastating disruption of native culture and life ways, with forced population movements, loss of land and territory (including traditional hunting and gathering locales), enslavement, and decline in population numbers from disease, malnutrition, starvation, and violence during the historic period. In the 1830s, foreign disease epidemics swept through the densely populated Central Valley, adjacent foothills, and North Coast Ranges decimating indigenous population number. By 1850, with their lands, resources and way of life being overrun by the steady influx of non-native people during the Gold Rush, California's native population was reduced to about 100,000. By 1900, there were only 20,000 or less than seven percent of the pre-contact number. Existing reservations were created in California by the federal government beginning in 1858 but encompass only a fraction of native lands.

In 2018, the Native American population in California was estimated at over 672,123 (U.S. Census Bureau. Although acknowledged as non-federally recognized California Native American tribes on the contact list maintained by the Native American Heritage Commission (NAHC), many groups continue to await federal tribal status recognition. There are currently 164 federally and non-federally recognized tribes within the state. Members of these tribes have specific cultural beliefs and traditions with unique connections to areas of California that are their ancestral homelands.

3.5.4.3 Historic Overview

Post-contact history for the State is generally divided into the Spanish period (1769–1822), Mexican period (1822–1848), and American period (1848–present). The establishment of Fort Ross by Alaska-based Russian traders also influenced post-contact history for a short period (1809–1841) in the region north of San Francisco Bay. Although there were brief visits along the Pacific coast by European explorers (Spanish, Russian, and British) between 1529 and 1769 of the territory claimed by Spain, the expeditions did not journey inland.

3.5.4.3.1 Spanish Period (1769–1822)

Spain's colonization of California began in 1769 with the overland expeditions from San Diego to San Francisco Bay by Lt. Colonel Gaspar de Portolá, and the establishment of a mission and settlement at San Diego. Between 1769 and 1823, the Spanish and the Franciscan Order established a series of 21 missions paralleling the coast along El Camino Real between San Diego and Sonoma (Rolle, 1969). Between 1769 and 1782, Spain built four presidios (i.e., San Diego,

Monterey, San Francisco, and Santa Barbara) to protect the missions, and by 1871 had established two additional pueblos at Los Angeles and San José.

Under Spanish law, large tracts of land, including cattle ranches and farms, fell under the jurisdiction of the missions. Native Americans were removed from their traditional lands, converted to Christianity, concentrated at the missions, and used as labor on the mission farms and ranches. Since the mission friars had civil as well as religious authority over their converts, they held title to lands in trust for indigenous groups. The lands were to be repatriated once the native peoples learned Spanish laws and culture.

3.5.4.3.2 Russian Period (1809–1841)

In 1809, Russian fur-traders started exploring the northern California coast with the goal of hunting sea otters and farming, to support their settlements in Alaska. The first Russian settlement was established in 1811–1812 by the Russian–American Fur Company to protect the lucrative marine fur trade and to grow produce for their Alaskan colonies. Not all Russians stayed in California for the fur trade partly due to declined sea otter population and also to settler resistance.

3.5.4.3.3 Mexican Period (1822–1848)

Following independence from Spain in 1822, the economy during the Mexican period depended on the extensive rancho system, carved from the former Franciscan missions and at least 500 land grants awarded in the State's interior to Mexican citizens. Captain John Sutter, who became a Mexican citizen, received the two largest land grants in the Sacramento Valley. In 1839, Sutter founded the trading and agricultural empire named New Helvetia that was headquartered at Sutter's Fort, near the confluence of the Sacramento and American Rivers in today's City of Sacramento.

Following adoption of the Secularization Act of 1833, the Mexican government privatized most Franciscan lands, including holdings of their California missions. Although secularization schemes had called for redistribution of lands to Native American neophytes who were responsible for construction of the mission empire, the vast mission lands and livestock holdings were instead redistributed by the Mexican government through several hundred land grants to private, non-indigenous ranchers. Most Native American converts returned to traditional lands that had not yet been colonized or found work with the large cattle ranchos being carved out of the mission lands.

3.5.4.3.4 American Period (1848–present)

In 1848, shortly after California became a territory of the U.S. with the signing of the Treaty of Guadalupe Hidalgo ending Mexican rule, gold was discovered on the American River at Sutter's Mill in Coloma. The resulting Gold Rush era influenced the history of the State, the nation, and the world. Thousands of people flocked to the gold fields in the Mother Lode region that stretches along the western foothills of the Sierra Nevada Mountains, and to the areas where gold was also discovered in other parts of the State, such as the Klamath and Trinity River basins. In 1850, California became the 31st state, largely as a result of the Gold Rush.

3.5.4.4 Paleontological Setting

California's fossil record is exceptionally prolific with abundant specimens representing a diverse range of marine, lacustrine, and terrestrial organisms recovered from Precambrian rocks as old as 1 billion years to as recent as 6,000-year-old Holocene deposits. These fossils provide key data for charting the course of the evolution or extinction of a variety of life on the planet, both locally and internationally. Paleontological specimens also provide key evidence for interpreting

paleoenvironmental conditions, sequences and timing of sedimentary deposition, and other critical components of the earth's geologic history. Fossils are considered our most significant link to the biological prehistory of the earth.

Because the majority of the State was underwater until the Tertiary period, marine fossils older than 65 million years are not common and are exposed mainly in the mountains along the border with Nevada and the Klamath Mountains, and Jurassic shales, sandstones, and limestones are exposed along the edges of the Central Valley, portions of the Coast, Transverse, and Peninsular Ranges, and the Mojave and Colorado Deserts. Some of the oldest fossils in the state, extinct marine vertebrates called conodonts, have been identified at Anza-Borrego Desert State Park in Ordovician sediments dating to circa 450 million years ago. Limestone outcrops of Pennsylvanian and Permian in the Providence Mountains State Recreation Area contain a variety of marine life, including brachiopods, fusulinids, crinoids, that lived some 300 to 250 million years ago.

Fossils from the Jurassic sedimentary layers in San Joaquin, San Luis Obispo, and Stanislaus counties include ammonites, bivalves, echinoderms, and marine reptiles, all of which were common in the coastal waters. Gymnosperms (seed-bearing plants) such as cycads, conifers, and ginkgoes are preserved in terrestrial sediments from this period, evidence that the Jurassic climate was warm and moderately wet. In the great Central Valley, marine rocks record the position of the Cretaceous shoreline as the eroded ancestral Sierra Nevada sediments were deposited east of the rising Coast Ranges and became the rock layers of the Sacramento and San Joaquin valleys. These Cretaceous sedimentary deposits have yielded abundant fossilized remains of plants, bivalves, ammonites, and marine reptiles.

Along coastal southern California where steep coastal mountains plunged into the warm Pacific Ocean an abundance of fossil marine invertebrates, such as ammonites, nautilus, tropical snails, and sea stars, have been found in today's coastal and near-coastal deposits from the Cretaceous Period. A rare, armored dinosaur fossil dated to about 75 million years ago during the Cretaceous was discovered in San Diego County during a highway project. It is the most complete dinosaur skeleton ever found in California. The lack of fossil remains of the majority of earth's large vertebrates, particularly terrestrial, marine, and flying reptiles (dinosaurs, ichthyosaurs, mosasaurs, plesiosaurs, and pterosaurs), as well as many species of terrestrial plants, after the end of the Cretaceous and the start of the Tertiary periods 65 million years ago (the K-T boundary) attests to their abrupt extinction.

3.5.4.5 Regulatory Setting

Applicable laws and regulations associated with cultural resources are discussed in Table 3.5-4.

Table 3.5-4
Applicable Laws and Regulations for Cultural Resources

Applicable Regulations	Description
Federal	
NHPA of 1966	The NHPA requires federal agencies to consider the preservation of historic and prehistoric resources. The NHPA authorizes the Secretary of the Interior to expand and maintain a National Register of Historic Places (NRHP), and it establishes an Advisory Council on Historic Preservation as an independent federal entity. Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking prior to licensing or approving the expenditure of funds on any undertaking that may affect properties listed, or eligible for listing, in the NRHP.
National Environmental Policy Act (NEPA) of 1969	NEPA requires federal agencies to foster environmental quality and preservation. Section 101(b)(4) declares that one objective of the national environmental policy is to "preserve important historic, cultural, and natural aspects of our national heritage." For major federal actions significantly affecting environmental quality, federal agencies must prepare, and make available for public comment, an environmental impact statement.
Archaeological Resources Protection Act of 1979 (NRPA) (16 USC Sections 470aa-470II)	The NRPA requires a permit for any excavation or removal of archaeological resources from public lands or Indian lands. The statute provides both civil and criminal penalties for violation of permit requirements and for excavation or removal of protected resources without a permit.
Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) (PL 101–601) (25 USC Section 3001 et seq.)	The NAGPRA vests ownership or control of certain human remains and cultural items excavated or discovered on federal or tribal lands, in designated Native American tribes, organizations, or groups. The NAGPRA further requires notification of the appropriate Secretary or other head of any federal agency upon the discovery of Native American cultural items on federal or tribal lands; proscribes trafficking in Native American human remains and cultural items; requires federal agencies and museums to compile an inventory of Native American human remains and associated funerary objects, and to notify affected Indian tribes of this inventory; and provides for the repatriation of Native American human remains and specified objects possessed or controlled by federal agencies or museums.

Table 3.5-4
Applicable Laws and Regulations for Cultural Resources

Applicable Regulations	Description
Advisory Council Regulation, Protection of Historic Properties (36 CFR Part 800)	This regulation establishes procedures for compliance with Section 106 of the NHPA. These regulations define the Criteria of Adverse Effect, define the role of State Historic Preservation Officer (SHPO) in the Section 106 review process, set forth documentation requirements, and describe procedures to be followed if significant historic properties are discovered during implementation of an undertaking. Prehistoric and historic resources deemed significant (i.e., eligible for listing in the NRHP, per 36 CFR 60.4) must be considered in project planning and construction. The responsible federal agency must submit any proposed undertaking that may affect NRHP-eligible properties to the SHPO for review and comment prior to project approval.
National Park Service Regulations, NRHP (36 CFR Part 60)	These regulations set forth procedures for nominating properties to the NRHP and present the criteria to be applied in evaluating the eligibility of historic and prehistoric resources for listing in the NRHP.
Archaeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines (Federal Register (FR) 190:44716–44742)	Non-regulatory technical advice about the identification, evaluation, documentation, study, and other treatment of cultural resources. Notable in these Guidelines are the "Standards for Archaeological Documentation" (p. 44734) and "Professional Qualifications Standards for Archaeology" (pp. 44740–44741).
American Indian Religious Freedom Act of 1978	The American Indian Religious Freedom Act pledges to protect and preserve the traditional religious rights of American Indians, Aleuts, Eskimos, and Native Hawaiians. Before the act was passed, certain federal laws interfered with the traditional religious practices of many American Indians. The Act establishes a national policy that traditional Native American practices and beliefs, sites (and right of access to those sites), and the use of sacred objects shall be protected and preserved.

Table 3.5-4
Applicable Laws and Regulations for Cultural Resources

Applicable Regulations	Description
Department of Transportation Act of 1966 Section 4(f)	Section 4(f) of the Act requires a comprehensive evaluation of all environmental impacts resulting from federal-aid transportation projects administered by the Federal Housing Administration (FHA), Federal Transit Administration (FTA), and Federal Aviation Administration (FAA) that involve the use—or interference with use—of several types of land: public park lands, recreation areas, and publicly or privately owned historic properties of federal, state, or local significance. The Section 4(f) evaluation must be sufficiently detailed to permit the U.S. Secretary of Transportation to determine that there is no feasible and prudent alternative to the use of such land, in which case the project must include all possible planning to minimize harm to any park, recreation, wildlife and waterfowl refuge, or historic site that would result from the use of such lands. If there is a feasible and prudent alternative, a proposed project using Section 4(f) lands cannot be approved by the Secretary. Detailed inventories of the locations and likely impacts on resources that fall into the Section 4(f) category are required in project-level environmental assessments.
State	
Health and Safety Code Sections 7052 and 7050.5 and PRC Section 5097.98	Disturbance of human remains without the authority of law is a felony (Health and Safety Code Section 7052). According to State law (Health and Safety Code Section 7050.5; PRC Section 5097.98), if human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until 1) the coroner of the county has been informed and has determined that no investigation of the cause of death is required; 2) and if the remains are of Native American origin, and if the descendants from the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of with appropriate dignity the human remains and any associated grave goods as provided in PRC Section 5097.98; or the Native American Heritage Commission was unable to identify a descendent or the descendent failed to make a recommendation within 24 hours after being notified by the Commission. According to the Health and Safety Code, six or more human burials at one location constitute a cemetery (Health and Safety Code Sections 8100 and 7003), and disturbance of Native American cemeteries is a felony (Health and Safety Code Section 7052). Section 7050.5 requires that construction or excavation be stopped near discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the Native American Heritage Commission, who has jurisdiction over Native American remains (Health and Safety Code 7050.5(c); PRC Section 5097.98).

Table 3.5-4
Applicable Laws and Regulations for Cultural Resources

Applicable Regulations	Description
CEQA (Guidelines Section 15380)	CEQA requires that public agencies financing or approving public or private projects must assess the effects of the project on cultural resources. Furthermore, it requires that, if a project results in significant impacts on important cultural resources, alternative plans or mitigation measures must be considered; only significant cultural resources, however, need to be addressed. Thus, prior to the development of mitigation measures, the importance of cultural resources must be determined.
Assembly Bill (AB) 52 (Statutes of 2014)	AB 52 (Gatto, Chapter 532, Statutes of 2014) recognizes that tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments, while respecting the interests and roles of project proponents. This requires specific consultation processes for project review and approval.
Local	
City/County General Plans	Policies, goals, and implementation measures in county or city general plans may contain measures applicable to cultural and paleontological resources. In addition to the enactment of local and regional preservation ordinances, CEQA requires that resources included in local registers be considered (local register of historical resources is defined in PRC Section 5020.1(k)). Therefore, local county and municipal policies, procedures, and zoning ordinances must be considered in the context of project-specific undertakings. Cultural resources are generally discussed in either the open space element or the conservation element of the general plan. Many local municipalities include cultural resources preservation elements in their general plans that include some mechanism pertaining to cultural resources in those communities. In general, the sections pertaining to archaeological and historical properties are put in place to afford the cultural resources a measure of local protection. The policies outlined in the individual general plans should be consulted prior to any undertaking or project.
Cooperative Agreements Among Agencies	Cooperative agreements among land managing agencies (BLM, National Park Service, U.S. Forest Service, California State Parks, Bureau of Indian Affairs, Department of Defense, and others) the State Historic Preservation Office and the Advisory Council on Historic Preservation may exist and will need to be complied with on specific projects. In addition, certain agencies have existing Programmatic Agreements requiring permits (California Public Utilities Commission (CPUC), BLM) to complete archaeological investigations and employ the Secretary of Interior's Professional Qualification Standards and Guidelines (36 CFR Part 61).

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

3.5.5 Geology and Soils

The existing setting for aesthetic impacts is discussed on pages A-158 of Attachment A of the CARB ACT Final EA. The State's topography is highly varied and includes 1,340 miles of seacoast, as well as high mountains, inland flat valleys, and deserts. Elevations in California range from 282 feet below sea level in Death Valley to 14,494 feet at the peak of Mount Whitney. The mean elevation of California is approximately 2,900 feet. The climate of California is as highly varied as its topography. Depending on elevation, proximity to the coast, and altitude, climate types include temperate oceanic, highland, sub-arctic, Mediterranean, steppe, and desert. Precipitation in California is highly variable year-to-year and across the state. The southeast deserts typically receive less than 5 inches a year and the north coast can often receive up to 100 inches per year, averaging about 50 inches across the state.

Approximately 75 percent of the state's annual precipitation falls between October and April, primarily in the form of rain, except for high mountain elevations. Overall, northern California is wetter than southern California with most of the State's annual precipitation occurring in the northern coastal region.

3.5.5.1 Geology

Plate tectonics and climate have played major roles in forming California's dramatic landscape. California is located on the active western boundary of the North American continental plate in contact with the oceanic Pacific Plate and the Gorda Plate north of the Mendocino Triple Junction. The dynamic interactions between these three plates and California's climate are responsible for the unique topographic characteristics of California, including rugged mountain ranges, long and wide flat valleys, and dramatic coastlines. Tectonics and climate also have a large effect on the occurrence natural environmental hazards, such as earthquakes, landslides, and volcanic formations.

Landslides. Landsliding or mass wasting is a common erosional process in California and has played an integral part in shaping the State's landscape. Typically, landslides occur in mountainous regions of the state, but they can also occur in areas of low relief, including coastal bluffs, along river and stream banks, and inland desert areas. Landsliding is the gravity-driven downhill mass movement of soil, rock, or both and can vary considerably in size, style and rate of movement, and type depending on the climate of a region, the steepness of slopes, rock type and soil depth, and moisture regime.

Earthquakes. Earthquakes are a common and unpredictable occurrence in California. The tectonic development of California began millions of years ago by a shift in plate tectonics that converted the passive margin of the North American plate into an active margin of compressional and translational tectonic regimes. This shift in plate tectonics continues to make California one of the most geomorphically diverse, active, and picturesque locations in the U.S. While some areas of California are more prone to earthquakes, such as northern, central, and southern coastal areas of California, all areas of California are prone to the effects of ground shaking due to earthquakes. While scientists have made substantial progress in mapping earthquake faults where earthquakes are likely to occur and predicting the potential magnitude of an earthquake in any particular region, they have been unable to precisely predict where or when an earthquake will occur and what its magnitude will be.

Tsunamis. Coastal communities around the circum-Pacific have long been prone to the destructive effects of tsunamis. Tsunamis are a series of long-period, high-magnitude ocean waves that are created when an outside force displaces large volumes of water. Throughout time, major subduction zone earthquakes in both the Northern and Southern Hemispheres have moved the Earth's crust at the ocean bottom sending vast amounts of waters into motion and spreading tsunami waves throughout the Pacific Ocean. Tsunamis can also occur from subareal and submarine landslides that displace large volumes of water. Subaeral landslide-generated tsunamis can be caused by seismically generated landslides, rock falls, rock avalanches, and eruption or collapse of island or coastal volcanoes. Submarine landslide-generated tsunamis are typically caused by major earthquakes or coastal volcanic activity. In contrast to a seismically generated tsunami, seismic seiches are standing waves that are caused by seismic waves traveling through a closed (lake) or semi-enclosed (bay) body of water. Due to the long-period seismic waves that originate after an earthquake, seiches can be observed several thousand miles away from the origin of the earthquakes. Small bodies of water, including lakes and ponds, are especially vulnerable to seismic seiches.

Volcanoes. A volcano is an opening in the Earth's crust through which magma escapes to the surface where it is extruded as lava. Volcanism may be spectacular, involving great fountains of molten rock, or tremendous explosions that are caused by the build-up of gases within the volcano. Some of the most active volcanic areas in California are located within the Cascade Range - a volcanic chain that is a result of compressional tectonics along the Cascadia subduction zone.

Active Faults. A fault is defined as a fracture or zone of closely associated fractures along rocks that on one side have been displaced with respect to those on the other side. Most faults are the result of repeated displacement that may have taken place suddenly or by slow creep. A fault is distinguished from fractures or shears caused by landsliding or other gravity-induced surficial failures. A fault zone is a zone of related faults that commonly are braided and subparallel but may be branching and divergent. A fault zone has significant width (with respect to the scale of the fault being considered, portrayed, or investigated), ranging from a few feet to several miles. In the State of California earthquake faults have been designated as being active through a process that has been described by the 1972 Alquist-Priolo Earthquake Fault Zoning Act. An active fault is defined by the State as one that has "had surface displacement within Holocene time (about the last 11,000 years)." This definition does not, of course, mean that faults lacking evidence for surface displacement within Holocene time are necessarily inactive. A fault may be presumed to be inactive based on satisfactory geologic evidence; however, the evidence necessary to prove inactivity sometimes is difficult to obtain and locally may not exist.

3.5.5.2 Regulatory Setting

Applicable laws and regulations associated with geology and soils are discussed in Table 3.5-5.

Table 3.5-5
Applicable Laws and Regulations for Geology and Soils

Applicable Regulations	Description
Federal	
Safe Drinking Water Act (SDWA) – Federal Underground Injection Control (UIC) Class VI Program for Carbon Dioxide Geology Sequestration Wells	Under the SDWA, the UIC Class VI Program for Carbon Dioxide Geologic Sequestration Wells requires states and owners or operators to submit all permit applications to the appropriate U.S. EPA Region for a Class VI permit to be issued. These requirements, also known as the Class VI rule, are designed to protect underground sources of drinking water. The Class VI rule builds on existing UIC Program requirements, with extensive tailored requirements that address carbon dioxide (CO_2) injection for long- term storage to ensure that wells used for geologic sequestration are appropriately sited, constructed, tested, monitored, funded, and closed. The rule affords owners or operator's injection depth flexibility to address injection in various geologic settings in the U.S. in which geologic sequestration may occur, including very deep formations and oil and gas fields that are transitioned for use as CO2 storage sites.
SDWA - Federal UIC Class II Program for Oil and Gas Related Injection Wells	The Class II Program for Oil and Gas Related Injection Wells requires states to meet U.S. EPA's minimum requirements for UIC programs including strict construction and conversion standards and regular testing and inspection. Enhanced oil and gas recovery wells may either be issued permits or be authorized by rule. Disposal wells are issued permits.
CWA (40 CFR 112)	The CWA was enacted to restore and maintain the chemical, physical, and biological integrity of the nation's waters by regulating point and nonpoint pollution sources, helping publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. This includes the creation of a system that requires states to establish discharge standards specific to water bodies (National Pollution Discharge Elimination System (NPDES)), which regulates storm water discharge from construction sites through the implementation of Storm Water Pollution Prevention Plans (SWPPPs). In California, the state's NPDES permit program is implemented and administered by the local RWQCBs.
Earthquake Hazards Reduction Act and National Earthquake Hazards Reduction Program Act	This Act established the National Earthquake Hazards Reduction Program to reduce the risks to life and property from future earthquakes. This program was significantly amended in November 1990 by the National Earthquake Hazards Reduction Program Act by refining the description of agency responsibilities, program goals and objectives.
Mining and Mineral Policy Act	The Mining and Mineral Act of 1970 declared that the Federal Government policy is to encourage private enterprise in the development of a sound and stable domestic mineral industry, domestic mineral deposits, minerals research, and methods for reclamation in the minerals industry.

Table 3.5-5
Applicable Laws and Regulations for Geology and Soils

Applicable Regulations	Description
State	
Seismic Hazards Mapping Act (PRC Section 2690 et seq.)	The Seismic Hazards Mapping Act of 1990 (PRC, Chapter 7.8, Division 2) directs the DOC Division of Mines and Geology (now called California Geological Survey (CGS)) to delineate Seismic Hazard Zones. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. These include areas identified that are subject to the effects of strong ground shaking, such as liquefaction, landslides, tsunamis, and seiches. Cities, counties, and state agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The Act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones.
Alquist-Priolo Earthquake Fault Zoning Act (PRC Section 2621 et seq.)	California's Alquist-Priolo Act (PRC Section 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults (Earthquake Fault Zones). It also defines criteria for identifying active faults, giving legal weight to terms such as "active," and establishes a process for reviewing building proposals in and adjacent to Earthquake Fault Zones. Under the Alquist-Priolo Act, faults are zoned, and construction along or across them is strictly regulated if they are "sufficiently active" and "well-defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for the purposes of the act as within the last 11,000 years). A fault is considered well-defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment.
California Division of Oil, Gas, and Geothermal Resources (DOGGR) (PRC Section 3106)	PRC Section 3106 mandates the supervision of drilling, operation, maintenance, and abandonment of oil wells for preventing: damage to life, health, property, and natural resources; damage to underground and surface waters suitable for irrigation or domestic use; loss of oil, gas, or reservoir energy; and damage to oil and gas deposits by infiltrating water and other causes. In addition, the DOGGR regulates drilling, production, injection, and gas storage operations in accordance with 14 CCR Chapter 4, Subchapter 1 (commencing with Section 1710 et seq.).

Table 3.5-5
Applicable Laws and Regulations for Geology and Soils

Applicable Regulations	Description
Landslide Hazard Identification Program (PRC Section 2687(a))	The Landslide Hazard Identification Program requires the State Geologist to prepare maps of landslide hazards within urbanizing areas. According to PRC Section 2687(a), public agencies are encouraged to use these maps for land use planning and for decisions regarding building, grading, and development permits.
California Building Standards Code (CBSC) (24 CCR)	California's minimum standards for structural design and construction are given in the CBSC (24 CCR). The CBSC is based on the Uniform Building Code (International Code Council 1997), which is used widely throughout U.S. (generally adopted on a state-by- state or district-by-district basis) and has been modified for California conditions with numerous, more detailed, or more stringent regulations. The CBSC provides standards for various aspects of construction, including (i.e., not limited to) excavation, grading, and earthwork construction; fills and embankments; expansive soils; foundation investigations; and liquefaction potential and soil strength loss. In accordance with California law, proponents of specific projects would be required to comply with all provisions of the CBSC for certain aspects of design and construction.
Surface Mining and Reclamation Act (SMARA) (PRC Section 2710 et seq.)	The intent of the SMARA of 1975 was to promote production and conservation of mineral resources, minimize environmental effects of mining, and to assure that mined lands will be reclaimed to conditions suitable for alternative uses. An important part of the SMARA legislation requires the State Geologist to classify land according to the presence or absence of significant mineral deposits. Local jurisdictions are given the authority to permit or restrict mining operations, adhering to the SMARA legislation. Classification of an area using Mineral Resource Zones (MRZs) to designate lands that contain mineral deposits are designed to protect mineral deposits from encroaching urbanization and land uses that are incompatible with mining. The MRZ classifications reflect varying degrees of mineral significance, determined by available knowledge of the presence or absence of mineral deposits as well as the economic potential of the deposits.

Table 3.5-5
Applicable Laws and Regulations for Geology and Soils

Applicable Regulations	Description
Local	
Geotechnical Investigation	Local jurisdictions typically regulate construction activities through a process that may require the preparation of a site-specific geotechnical investigation. The purpose of a site-specific geotechnical investigation is to provide a geologic basis for the development of appropriate construction design. Geotechnical investigations typically assess bedrock and Quaternary geology, geologic structure, soils, and the previous history of excavation and fill placement. Proponents of specific projects that require design of earthworks and foundations for proposed structures will need to prepare geotechnical investigations on the physical properties of soil and rock at the site prior to project design.
Local Grading and Erosion Control Ordinances	Many counties and cities have grading and erosion control ordinances. These ordinances are intended to control erosion and sedimentation caused by construction activities. A grading permit is typically required for construction-related projects. As part of the permit, project applicants usually must submit a grading and erosion control plan, vicinity and site maps, and other supplemental information. Standard conditions in the grading permit include a description of best management practices similar to those contained in a SWPPP.
City/County General Plans	Most city and county general plans include an element that covers geology and soil resources within that jurisdiction.

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

3.5.6 Hydrology and Water Quality

3.5.6.1 Surface Waters

The existing setting for aesthetic impacts is discussed on pages A-181 of Attachment A of the CARB ACT Final EA. Surface waters occur as streams, lakes, ponds, coastal waters, lagoons, estuaries, floodplains, dry lakes, desert washes, wetlands, and other collection sites. Water bodies modified or developed by man, including reservoirs and aqueducts, are also considered surface waters.

Surface water resources are very diverse throughout the state, due to the high variance in tectonics, topography, geology/soils, climate, precipitation, and hydrologic conditions. Overall, California has the most diverse range of watershed conditions in the U.S., with varied climatic regimes ranging from Mediterranean climates with temperate rainforests in the north coast region to desert climates containing dry desert washes and dry lakes in the southern central region.

The average annual runoff for the State is 71 million acre-feet. The State has more than 60 major stream drainages and more than 1,000 smaller, but significant drainages that drain coastal

mountains and inland mountainous areas. High snowpack levels and resultant spring snowmelt yield high surface runoff and peak discharge in the Sierra Nevada and Cascade Mountains that feed surface flows, fill reservoirs, and recharge groundwater.

Federal, state, and local engineered water projects, aqueducts, canals, and reservoirs serve as the primary conduits of surface water sources to areas that have limited surface water resources. Most of the surface water storage is transported for agricultural, urban, and rural residential needs to the San Francisco Bay Area and to cities and areas extending to southern coastal California. Surface water is also transported to southern inland areas, including Owens Valley, Imperial Valley, and Central Valley areas.

3.5.6.2 Groundwater

The majority of runoff from snowmelt and rainfall flows down mountain streams into low gradient valleys and either percolates into the ground or is discharged to the sea. This percolating flow is stored in alluvial groundwater basins that cover approximately 40 percent of the geographic extent of the State. Groundwater recharge occurs more readily in areas underlain by coarse sediments, primarily in mountain base alluvial fan settings. As a result, most of California's groundwater basins are located in broad alluvial valleys flanking mountain ranges, such as the Cascade Range, Coast Ranges, Transverse Ranges, and the Sierra Nevada.

There are 250 major groundwater basins that serve approximately 30 percent of California's urban, agricultural, and industrial water needs, especially in southern portion of San Francisco Bay, the Central Valley, greater Los Angeles area, and inland desert areas where surface water is limited. On average, more than 15 million acre-feet of groundwater are extracted each year in the state, of which more than 50 percent is extracted from 36 groundwater basins in the Central Valley.

3.5.6.3 Water Quality

Land uses have a great effect on surface water and groundwater water quality in the State of California. Water quality degradation of surface waters occurs through nonpoint- and point- source discharges of pollutants. Nonpoint source pollution is defined as not having a discrete or discernible source and is generated from land runoff, precipitation, atmospheric deposition, seepage, and hydrologic modification. Nonpoint-source pollution includes runoff containing pesticides, insecticides, and herbicides from agricultural areas and residential areas; acid drainage from inactive mines; bacteria and nutrients from septic systems and livestock; VOCs and toxic chemicals from urban runoff and industrial discharges; sediment from timber harvesting, poor road construction, improperly managed construction sites, and agricultural areas; and atmospheric deposition and hydromodification. In comparison, point- source pollution is generated from identifiable, confined, and discrete sources, such as a smokestack, sewer, pipe or culvert, or ditch. These pollutant sources are regulated by U.S. EPA and the State Water Resources Control Board (SWRCB) through RWQCBs. Many of the pollutants discharged from point-sources are the same as for nonpoint-sources, including municipal (bacteria and nutrients), agricultural (pesticides, herbicides, and insecticides), and industrial pollutants (VOCs and other toxic effluent).

3.5.6.4 Regulatory Setting

Applicable laws and regulations associated with hydrology, water quality, and water supply are discussed in Table 3.5-6.

Table 3.5-6
Applicable Laws and Regulations for Hydrology, Water Quality, and Water Supply

Applicable Regulations	Description
Federal	
National Flood Insurance Program (FEMA)	Designated floodplain mapping program, flooding and flood hazard reduction implementation, and federal subsidized flood insurance for residential and commercial property. Administered by FEMA.
EO 11988	Requires actions to be taken for federal activities to reduce the risks of flood losses, restore and preserve floodplains, and minimize flooding impacts to human health and safety.
CWA	Administered primarily by U.S. EPA, the CWA pertains to water quality standards, state responsibilities, and discharges of waste to waters of the U.S. Sections 303, 401, 402, and 404.
CWA Section 303	Defines water quality standards consisting of 1) designated beneficial uses of a water, 2) the water quality criteria (or "objectives" in California) necessary to support the uses, and 3) an antidegradation policy that protects existing uses and high-water quality. Section 303(d) requires states to identify water quality impairments where conventional control methods will not achieve compliance with the standards and establish total maximum daily load (TMDL) programs to achieve compliance.
CWA Section 401	State certification system for federal actions which may impose conditions on a project to ensure compliance with water quality standards.
CWA Section 402	Section 402 mandates permits for municipal stormwater discharges, which are regulated under the NPDES General Permit for Municipal Separate Storm Sewer Systems (MS4) (MS4 Permit). Several of the cities and counties issue their own NPDES municipal stormwater permits for the regulations of stormwater discharges. These permits require that controls are implemented to reduce the discharge of pollutants in stormwater discharges to the maximum extent possible, including management practices, control techniques, system design and engineering methods, and other measures as appropriate. As part of permit compliance, these permit holders have created Stormwater Management Plans for their respective locations. These plans outline the requirements for municipal operations, industrial and commercial businesses, construction sites, and planning and land development. These requirements may include multiple measures to control pollutants in stormwater discharge. During implementation of specific projects, applicants will be required to follow the guidance contained in the Stormwater Management Plans as defined by the permit holder in that location.
CWA Section 404	Permit system for dredging or filling activity in waters of the U.S., including wetlands, and administered by USACE.

Table 3.5-6
Applicable Laws and Regulations for Hydrology, Water Quality, and Water Supply

Applicable Regulations	Description
National Toxics Rule and California Toxics Rule	Applicable receiving water quality criteria promulgated by U.S. EPA for priority toxic pollutants consisting generally of trace metals, synthetic organic compounds, and pesticides.
State	
California Water Rights	SWRCB administers review, assessment, and approval of appropriative (or priority) surface water rights permits/licenses for diversion and storage for beneficial use. Riparian water rights apply to the land and allow diversion of natural flows for beneficial uses without a permit, but users must share the resources equitably during drought. Groundwater management planning is a function of local government. Groundwater use by overlying property owners is not formally regulated, except in cases where the groundwater basin supplies are limited and uses have been adjudicated, or through appropriative procedures for groundwater transfers.
Public Trust Doctrine	Body of common law that requires the State to consider additional terms and conditions when issuing or reconsidering appropriative water rights to balance the use of the water for many beneficial uses irrespective of the water rights that have been established. Public trust resources have traditionally included navigation, commerce, and fishing and have expanded over the years to include protection of fish and wildlife, and preservation goals for scientific study, scenic qualities, and open-space uses.
Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq. and Title 23)	SWRCB is responsible for statewide water quality policy development and exercises the powers delegated to the State by the federal government under the CWA. Nine RWQCBs adopt and implement water quality control plans (Basin Plans) which designate beneficial uses of surface waters and groundwater aquifers and establish numeric and narrative water quality objectives for beneficial use protection. RWQCBs issue waste discharge requirements for discharge activities to water and land, require monitoring and maintain reporting programs, and implement enforcement and compliance policies and procedures. Other State agencies with jurisdiction in water quality regulation in California include the Department of Pesticide Regulation, DTSC, CDFW, and OEHHA.
Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California	The State Implementation Policy provides implementation procedures for discharges of toxic pollutants to receiving waters.

Table 3.5-6
Applicable Laws and Regulations for Hydrology, Water Quality, and Water Supply

Applicable Regulations	Description
Thermal Plan	The Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California was adopted by SWRCB in 1972 and amended in 1975. The Thermal Plan restricts discharges of thermal waste or elevated temperature waste to waters of the state. Generally, the Thermal Plan prohibits discharges from increasing ambient temperatures by more than 1ºF over more than 25 percent of a stream cross section, increasing ambient temperatures by more than 4ºF in any location, and prohibits discharge of waste that exceeds more than 20ºF above the ambient temperature.
Statewide NPDES General Permit for Stormwater Associated with Land Disturbance and Construction Activity (Order No. 2009-0009- DWQ, NPDES No. CAR000002)	NPDES permit for stormwater and non-storm discharges from construction activity that disturbs greater than 1 acre. The general construction permit requires the preparation of a SWPPP that identifies Best Management Practices (BMPs) to be implemented to control pollution of storm water runoff. The permit specifies minimum construction BMPs based on a risk-level determination of the potential of the project site to contribute to erosion and sediment transport and sensitivity of receiving waters to sediment. While small amounts of construction-related dewatering are covered under the General Construction Permit, RWQCBs have also adopted a General Order for Dewatering and Other Low Threat Discharges to Surface Waters (General Dewatering Permit). This permit applies to various categories of dewatering activities and may apply to some construction sites, if construction of specific projects required dewatering in greater quantities than that allowed by the General Construction Permit and discharged the effluent to surface waters. The General Dewatering Permit contains waste discharge limitations and prohibitions similar to those in the General Construction Permit.
Statewide NPDES General Permit for Discharges of Stormwater Associated with Industrial Facilities (Order No. 97-003-DWQ, NPDES No. CAS000001)	NPDES permit for stormwater and non-storm discharges from types of industrial sites based on the Standard Industrial Classification. The general industrial permit requires the preparation of a SWPPP that identifies potential onsite pollutants, BMPs to be implemented, and inspection/monitoring.

Table 3.5-6
Applicable Laws and Regulations for Hydrology, Water Quality, and Water Supply

Applicable Regulations	Description
SB 1168, Statutes of 2014 Chapter 346, Pavely	This bill requires all groundwater basins designated as high- or medium-priority basins by the Department of Water Resources that are designated as basins subject to critical conditions of overdraft to be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans by January 31, 2020, and requires all other groundwater basins designated as high- or medium-priority basins to be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans by January 31, 2022. This bill would require a groundwater sustainability plan to be developed and implemented to meet the sustainability goal, established as prescribed, and would require the plan to include prescribed components.
AB 1739, Statutes of 2014, Dickinson, Chapter 347	This bill establishes groundwater reporting requirements for a person extracting groundwater in an area within a basin that is not within the management area of a groundwater sustainability agency or a probationary basin. The bill requires the reports to be submitted to State Water Resources Control Board or, in certain areas, to an entity designated as a local agency by State Water Resources Control Board.
SB 1319, Statutes of 2014, Chapter 348, Pavely	This bill allows State Water Resources Control Board to designate a groundwater basin as a probationary basin subject to sustainable groundwater management requirements. This bill also authorizes State Water Resources Control Board to develop an interim management plan in consultation with the Department of Water Resources under specified conditions.
Mining and Mineral Policy Act	The Mining and Mineral Act of 1970 declared that the Federal Government policy is to encourage private enterprise in the development of a sound and stable domestic mineral industry, domestic mineral deposits, minerals research, and methods for reclamation in the minerals industry.
Local	
Water Agencies	Water agencies enter into contracts or agreements with the federal and State governments to protect the water supply and to ensure the lands within the agency have a dependable supply of suitable quality water to meet present and future needs.
Floodplain Management	General plans guide county land use decisions, and require the identification of water resource protection goals, objectives, and policies. Floodplain management is addressed through ordinances, land use planning, and development design review and approval. Local actions may be coordinated with FEMA for the National Flood Insurance Program. Typical provisions address floodplain use restrictions, flood protection requirement, allowable alteration of floodplains and stream channels, control of fill and grading activities in floodplains, and prevention of flood diversions where flows would increase flood hazards in other areas.

Table 3.5-6
Applicable Laws and Regulations for Hydrology, Water Quality, and Water Supply

Applicable Regulations	Description
Drainage, Grading, and Erosion Control Ordinances	Counties regulate building activity under the federal Uniform Building Code, local ordinances, and related development design review, approval, and permitting. Local ordinances are common for water quality protection addressing drainage, stormwater management, land grading, and erosion and sedimentation control.
Environmental Health	RWQCBs generally delegate permit authority to county health departments to regulate the construction and operation/maintenance of on-site sewage disposal systems (e.g., septic systems and leach fields, cesspools).
Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf	

3.5.7 Land Use and Planning

The existing setting for aesthetic impacts is discussed on pages A-186 of Attachment A of the CARB ACT Final EA. The way physical landscapes are used or developed is commonly referred to as land use. Public agencies are the primary entities that determine the types of land use changes that can occur for specific purposes within their authority or jurisdiction. In most states, land uses decisions are made by local governments. In incorporated areas, land use decisions are typically made by the city. In unincorporated areas, land use decisions are typically made by the county. Sometimes state, regional, or federal land management agencies also make land use decisions. Generally, State law establishes the framework for local planning procedures, which local governments follow in adopting their own set of land use policies and regulations in response to the unique issues they face.

In California, the State Planning and Zoning Law (Government Code Section 65000 et seq.) provides the primary legal framework that cities and counties must follow in land use planning and controls. Planned land uses are designated in the city or county general plan, which serves as the comprehensive master plan for the community. Also, city and county land use and other related resource policies are defined in the General Plan. The primary land use regulatory tool provided by the California Planning and Zoning Law is the zoning ordinance adopted by each city and county. Planning and Zoning Law requirements are discussed in the regulatory setting below.

When approving land use development, cities and counties must comply with CEQA, which requires that they consider the significant environmental impacts of their actions and the adoption of all feasible mitigation measures to substantially reduce significant impacts, in the event a project causes significant or potentially significant effects on the environment. In some cases, building permits may be ministerial, and therefore exempt from CEQA, but most land use development approval actions by cities and counties require CEQA compliance.

Land use decisions in California are also be governed by State agencies such as the California Coastal Commission, California State Lands Commission, California Department of Parks and Recreation, and others, where the State has land ownership or permitting authority with respect to natural resources or other State interests.

3.5.7.1 Regulatory Setting

Applicable laws and regulations associated with land use and planning are discussed in Table 3.5-7.

Table 3.5-7
Applicable Laws and Regulations for Land Use and Planning

Applicable Regulations	Description
Federal	
Federal Land Policy and Management Act – (FLPMA)	FLPMA is the principal law governing how BLM manages public lands. FLPMA requires BLM to manage public land resources for multiple use and sustained yield for both present and future generations. Under FLPMA, BLM is authorized to grant rights-of- way for generation, transmission, and distribution of electrical energy. Although local agencies do not have jurisdiction over the federal lands managed by BLM, under FLPMA and BLM regulations at 43 CFR Part 1600, BLM must coordinate its planning efforts with State and local planning initiatives. FLPMA defines an Area of Critical Environmental Concern (ACEC) as an area within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards. BLM identifies, evaluates, and designates ACECs through its resource management planning process. Allowable management practices and uses, mitigation, and use limitations, if any, are described in the planning document and the concurrent or subsequent ACEC Management Plan. ACECs are considered land use authorization avoidance areas because they are known to contain resource values that could result in denial of applications for land uses that cannot be designed to be compatible with management objectives and prescriptions for the ACEC.
Resource Management Plans (RMPs)	Established by FLPMA, RMPs are designed to protect present and future land uses and to identify management practices needed to achieve desired conditions within the management area covered by the RMPs. Management direction is set forth in the RMPs in the form of goals, objectives, standards, and guidelines. These, in turn, direct management actions, activities, and uses that affect land management, and water, recreation, visual, natural, and cultural resources.
National Forest Management Act (NFMA)	The NFMA is the primary statute governing the administration of national forests. The act requires the Secretary of Agriculture to assess forest lands, develop a management program based on multiple-use, sustained-yield principles, and implement a resource management plan for each unit of the National Forest System. Goal 4 of the USFS's National Strategic Plan for the National Forests states that the nation's forests and grasslands play a significant role in meeting America's need for producing and transmitting energy. Unless otherwise restricted, National Forest Service lands are available for energy exploration, development, and infrastructure (e.g., well

Table 3.5-7
Applicable Laws and Regulations for Land Use and Planning

Applicable Regulations	Description
	sites, pipelines, and transmission lines). However, the emphasis on non-recreational special uses, such as utility corridors, is to authorize the special uses only when they cannot be reasonably accommodated on non-National Forest Service lands.
State	
State Planning and Zoning Law (Government Code Section 65300 et seq.)	Establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of the city or county. The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city or county's vision for the area. The general plan is also a long-range document that typically addresses the physical character of an area over a 20-year period. Although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow for flexibility in the approach taken to achieve the plan's goals.
Subdivision Map Act (Government Code section 66410 et seq.)	In general, land cannot be divided in California without local government approval. The primary goals of the Subdivision Map Act are: (a) to encourage orderly community development by providing for the regulation and control of the design and improvements of the subdivision with a proper consideration of its relation to adjoining areas; (b) to ensure that the areas within the subdivision that are dedicated for public purposes will be properly improved by the subdivider so that they will not become an undue burden on the community; and (c) to protect the public and individual transferees from fraud and exploitation. (61 Ops. Cal.Atty. Gen. 299, 301 (1978); 77 Ops. Cal.Atty. Gen. 185 (1994)). Dividing land for sale, lease or financing is regulated by local ordinances based on the State Subdivision Map Act (Government Code Section 66410 et seq.).
SB 375, Statutes of 2008	SB 375 augments the existing federal requirement for MPOs to develop RTPs for their respective regions. Under SB 375, MPOs must prepare an SCS to supplement their RTPs. RTP/SCSs contain land use strategies to reduce VMT-related emissions of GHGs. Following the adoption of an RTP/SCSs, land use strategies must be implemented at the local level by land use agencies.
Local	
General Plans	The most comprehensive land use planning is provided by city and county general plans, which local governments are required by State law to prepare as a guide for future development. The general plan contains goals and policies concerning topics that are mandated by State law or which the jurisdiction has chosen to include. Required topics are land use, circulation, housing, conservation, open space, noise, and safety. Other topics that local governments frequently

Table 3.5-7
Applicable Laws and Regulations for Land Use and Planning

Applicable Regulations	Description
	choose to address are public facilities, parks and recreation, community design, or growth management, among others. City and county general plans must be consistent with each other. County general plans must cover areas not included by city general plans (i.e., unincorporated areas).
Specific and Community Plans	A city or county may also provide land use planning by developing community or specific plans for smaller, more specific areas within their jurisdiction. These more localized plans provide for focused guidance for developing a specific area, with development standards tailored to the area, as well as systematic implementation of the general plan. Specific and community plans are required to be consistent with the city or county's general plan.
Zoning	The city or county zoning code is the set of detailed requirements that implement the general plan policies at the level of the individual parcel. The zoning code presents standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. Since 1971, State law has required the city or county zoning code to be consistent with the jurisdiction's general plan, except in charter cities.
CEQA Guidelines Section 15332	CEQA Guidelines Section 15332 provides for certain types of infill projects that may be determined to be categorically exempt from CEQA review by local lead agencies. Infill projects that may be exempt from environmental review under this class of categorical exemption must: be consistent with the applicable general plan and zoning designations; be within city limits and on a parcel no greater than five acres; not contain valuable habitat for any federal or State listed species; not contribute to any significant effects to traffic, noise, or air and water quality; and be adequately served by existing utilities and public services.

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

3.5.8 Mineral Resources

The existing setting for aesthetic impacts is discussed on pages A-189 of Attachment A of the CARB ACT Final EA. Various countries export the mineral resources used in the production of lithium-ion batteries (e.g. lithium, cobalt, platinum) to international manufacturers. In 2018, Australia exported 51,000 tons of lithium, Chile exported 16,000 tons, Argentina exported 6,200 tons, and China exported 8,000. The U.S. currently imports lithium from Argentina (51 percent), Chile (44 percent), China (3 percent), Russia (1 percent) and others (1 percent). Major suppliers of cobalt, a precious metal used in the manufacturing of batteries, include the Democratic Republic of the Congo, which mined 90,000 tons of cobalt in 2018; well over half of the world's total supply of cobalt. Other countries' cobalt mining totals for 2018 include Russia (5,900 tons), Cuba (4,900 tons), Australia (4,700 tons) Canada (3,800 tons), and China (3,100 tons).

Additionally, platinum comprises an important component of catalytic converters found in hydrogen fuel cells. In 2018, South Africa exported 110,000 tons of platinum, Russia exported 21,000 tons, Zimbabwe exported 14,000 tons, Canada exported 9,500 tons, and U.S. 4,100. Currently, the U.S. imports platinum from South Africa (44 percent), Germany (15 percent), the United Kingdom (10 percent each), Italy (7 percent), and other countries (24 percent). The U.S. also important palladium from South Africa (31 percent), Russia (28percent), Italy (12 percent), the United Kingdom (6 percent), and other countries (23 percent) (USGS, 2019c).

The CGS classifies the regional significance of mineral resources in accordance with the California Surface Mining and Reclamation Act of 1975 and assists in the designation of land containing significant aggregate resources. MRZs have been designated to indicate the significance of mineral deposits. The MRZ categories follow:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- MRZ-2: Areas where adequate information indicates significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3: Areas containing mineral deposits the significance of which cannot be evaluated from available data.
- MRZ-4: Areas where available information is inadequate for assignment to any other MRZ.

California ranks as 7th in the U.S. for non-fuel mineral production, accounting for approximately 3.9 percent of the nation's total. In 2011, there were approximately 700 active mineral mines that produced: sand and gravel, boron, Portland cement, crushed stone, gold, masonry cement, clays, gemstones, gypsum, salt, silver, and other minerals.

3.5.8.1 Regulatory Setting

Applicable laws and regulations associated with mineral resources are discussed in Table 3.5-8.

Table 3.5-8
Applicable Laws and Regulations for Mineral Resources

Applicable Regulations	Description
Federal	
Mining and Mineral Policy Act	The Mining and Mineral Act of 1970 declared that the Federal Government policy is to encourage private enterprise in the development of a sound and stable domestic mineral industry, domestic mineral deposits, minerals research, and methods for reclamation in the minerals industry.
State	
Surface Mining and Reclamation Act of 1975 (SMARA)	The intent of SMARA of 1975 is to promote production and conservation of mineral resources, minimize environmental effects of mining, and to assure that mined lands will be reclaimed to conditions suitable for alternative uses. An important part of the SMARA legislation requires the State Geologist to classify land according to the presence or absence of significant mineral deposits. Local jurisdictions are given the authority to permit or restrict mining operations, adhering to the SMARA legislation. Classification of an area using MRZs to designate lands that contain mineral deposits are designed to protect mineral deposits from encroaching urbanization and land uses that are incompatible with mining. The MRZ classifications reflect varying degrees of mineral significance, determined by available knowledge of the presence or absence of mineral deposits as well as the economic potential of the deposits.
California Building Standards Code (CBSC) (24 CCR)	California's minimum standards for structural design and construction are given in the CBSC (24 CCR). The CBSC is based on the Uniform Building Code (International Code Council 1997), which is used widely throughout U.S. (generally adopted on a state-by-state or district-by-district basis) and has been modified for California conditions with numerous, more detailed or more stringent regulations. The CBSC provides standards for various aspects of construction, including (i.e., not limited to) excavation, grading, and earthwork construction; fills and embankments; expansive soils; foundation investigations; and liquefaction potential and soil strength loss. In accordance with California law, proponents of specific projects would be required to comply with all provisions of the CBSC for certain aspects of design and construction.
PRC Sections 2762-2763	PRC Section 2762 states that the general plan must establish mineral resource management policies if the State Geologist has identified resources of statewide or regional significance within the city or county. PRC Section 2763 requires that city and county land use decisions affecting areas with minerals of regional or statewide significance be consistent with mineral resource management policies in the general plan, including protection of known mineral resources.

Table 3.5-8
Applicable Laws and Regulations for Mineral Resources

Applicable Regulations	Description
Local	
Local Grading and Erosion Control Ordinances	Many counties and cities have grading and erosion control ordinances. These ordinances are intended to control erosion and sedimentation caused by construction activities. A grading permit is typically required for construction-related projects. As part of the permit, project applicants usually must submit a grading and erosion control plan, vicinity and site maps, and other supplemental information. Standard conditions in the grading permit include a description of BMPs similar to those contained in a SWPPP.
City/County General Plans	Most city and county general plans have an element that addresses mineral resources within that jurisdiction.

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

3.5.9 Noise

The existing setting for aesthetic impacts is discussed on pages A-192 of Attachment A of the CARB ACT Final EA. Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise.

3.5.9.1 Sound Properties

A sound wave is initiated in a medium by a vibrating object (e.g., vocal chords, the string of a guitar, the diaphragm of a radio speaker). The wave consists of minute variations in pressure, oscillating above and below the ambient atmospheric pressure. The number of pressure variation cycles occurring per second is referred to as the frequency of the sound wave and is expressed in hertz. Directly measuring sound pressure fluctuations would require the use of a very large and cumbersome range of numbers. To avoid this and have a more useable numbering system, the dB scale was introduced. A sound level expressed in decibels is the logarithmic ratio of two like pressure quantities, with one pressure quantity being a reference sound pressure. For sound pressure in air the standard reference quantity is generally considered to be 20 micropascals, which directly corresponds to the threshold of human hearing. The use of the decibel is a convenient way to handle the million-fold range of sound pressures to which the human ear is sensitive. A decibel is logarithmic; it does not follow normal algebraic methods and cannot be directly summed. For example, a 65-dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100-fold increase in acoustical energy.

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness

at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. The standard weighting networks are identified as A through E. There is a strong correlation between the way humans perceive sound and A-weighted sound levels (dBA). For this reason, the dBA can be used to predict community response to noise from the environment, including noise from transportation and stationary sources. Sound levels expressed as dB in this section are A-weighted sound levels, unless noted otherwise.

Noise can be generated by many sources, including mobile sources (i.e., transportation) such as automobiles, trucks, and airplanes and stationary sources (i.e., non-transportation) such as construction sites, machinery, and commercial and industrial operations. As acoustic energy spreads through the atmosphere from the source to the receiver, noise levels attenuate (i.e., decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers. Noise generated from mobile sources generally attenuate at a rate of 4.5 dB per doubling of distance. Stationary noise sources spread with more spherical dispersion patterns that attenuate at a rate of 6 to 7.5 dB per doubling of distance.

Atmospheric conditions such as wind speed, turbulence, temperature gradients, and humidity may additionally alter the propagation of noise and affect levels at a receiver. Furthermore, the presence of a large object (e.g., barrier, topographic features, and intervening building façades) between the source and the receptor can provide significant attenuation of noise levels at the receiver. The amount of noise level reduction (i.e., shielding) provided by a barrier primarily depends on the size of the barrier, the location of the barrier in relation to the source and receivers, and the frequency spectra of the noise. Natural (e.g., berms, hills, and dense vegetation) and human-made features (e.g., buildings and walls) may be used as noise barriers.

All buildings provide some exterior-to-interior noise reduction. A building constructed with a wood frame and a stucco or wood sheathing exterior typically provides a minimum exterior-to-interior noise reduction of 25 dB with its windows closed, whereas a building constructed of a steel or concrete frame, a curtain wall or masonry exterior wall, and fixed plate glass windows of one-quarter-inch thickness typically provides an exterior-to-interior noise reduction of 30–40 dB with its windows closed.

3.5.9.2 Common Noise Descriptors

The intensity of environmental noise fluctuates over time, and several different descriptors of time-averaged noise levels are used. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment. The noise descriptors most often in relation to the environment are defined below.

- **Equivalent Noise Level (Leq):** The equivalent steady-state noise level in a stated period of time that would contain the same acoustic energy as the time-varying noise level during the same period (i.e., average noise level).
- **Maximum Noise Level (Lmax):** The highest instantaneous noise level during a specified time.
- **Minimum Noise Level (Lmin):** The lowest instantaneous noise level during a specified time.
- **Day-Night Noise Level (Ldn)**: The 24-hour Leq with a 10-dB penalty applied during the noise- sensitive hours from 10 p.m. to 7 a.m., which are typically reserved for sleeping.

- **Community Noise Equivalent Level (CNEL):** Like the Ldn described above with an additional 5-dB penalty applied during the noise-sensitive hours from 7 p.m. to 10 p.m., which are typically reserved for relaxation, conversation, reading, and watching television. Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the Leq descriptor listed above, which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptors such as Ldn and CNEL, as defined above, and shows very good correlation with community response to noise.

3.5.9.3 Effects of Noise on Humans

Excessive and chronic exposure to elevated noise levels can result in auditory and non- auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communications, sleep, and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors vary depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels that are attributed to a new noise source, relative to the environment an individual has become accustom to, the less tolerable the new noise source will be perceived.

With respect to how humans perceive and react to changes in noise levels, a 1-dB increase is imperceptible, a 3-dB increase is barely perceptible, a 6-dB increase is clearly noticeable, and a 10-dB increase is subjectively perceived as approximately twice as loud. These subjective reactions to changes in noise levels was developed based on test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dB, as this is the usual range of voice and interior noise levels. For these reasons, a noise level increase of 3 dB or more is typically considered substantial in terms of the degradation of the existing noise environment.

Negative effects of noise exposure include physical damage to the human auditory system, interference, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic

hearing loss both may result in permanent hearing damage. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal may be considered dangerous. Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, and level of the noise, and the exposure time.

3.5.9.4 Vibration

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery or transient in nature, explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings/ PPV and RMS vibration velocity are normally described in inches per second (in/sec).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration. This is based on a reference value of 1micro (μ) inch/second.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels.

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities could generate groundborne vibrations that potentially pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants.

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment.

3.5.9.5 Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential

element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, schools, historic sites, cemeteries, and recreation areas are also generally considered sensitive to increases in exterior noise levels. Places of worship and transit lodging, and other places where low interior noise levels are essential are also considered noise-sensitive. These types of receptors are also considered vibration-sensitive land uses in addition to commercial and industrial buildings where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

3.5.9.6 Regulatory Setting

Applicable laws and regulations associated with noise are discussed in Table 3.5-9.

Table 3.5-9
Applicable Laws and Regulations for Noise

Applicable Regulations	Description
Federal	
Federal Noise Control Act (1972) U.S. EPA (40 CFR 201-211)	This act established a requirement that all federal agencies administer their programs to promote an environment free of noise that jeopardizes public health or welfare. U.S. EPA was given the responsibility for providing information to the public regarding identifiable effects of noise on public health or welfare, publishing information on the levels of environmental noise that will protect the public health and welfare with an adequate margin of safety, coordinating federal research and activities related to noise control, and establishing federal noise emission standards for selected products distributed in interstate commerce. This act also directed that all federal agencies comply with applicable federal, state, interstate, and local noise control regulations.
Quiet Communities Act (1978)	This act promotes the development of effective State and local noise control programs, to provide funds for noise research, and to produce and disseminate educational materials to the public on the harmful effects of noise and ways to effectively control it.
14 CFR, Part 150 (FAA)	These address airport noise compatibility planning and include a system for measuring airport noise impacts and present guidelines for identifying incompatible land uses. All land uses are considered compatible with noise levels of less than 65 dBA L_{dn}. At higher noise levels, selected land uses are also deemed acceptable, depending on the nature of the use and the degree of structural noise attenuation provided.
International Standards and Recommended Practices (International Civil Aviation Organization)	This contains policies and procedures for considering environmental impacts (e.g., aircraft noise emission standards and atmospheric sound attenuation factors).

Table 3.5-9
Applicable Laws and Regulations for Noise

Applicable Regulations	Description
32 CFR, Part 256 (Department of Defense Air Installations Compatible Use Zones (AICUZ) Program)	AICUZ plans prepared for individual airfields are primarily intended as recommendations to local communities regarding the importance of maintaining land uses which are compatible with the noise and safety impacts of military aircraft operations.
23 CFR, Part 772, Federal Highway Administration (FHWA) standards, policies, and procedures	FHWA standards, policies, and procedures provide procedures for noise studies and noise abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways.
29 CFR, Part 1910, Section 1910.95 (U.S. Department of Labor Occupational Safety and Health Administration)	This regulation established a standard for noise exposure in the workplace.
FTA Guidance	This guidance presents procedures for predicting and assessing noise and vibration impacts of proposed mass transit projects. All types of bus and rail projects are covered. Procedures for assessing noise and vibration impacts are provided for different stages of project development, from early planning before mode and alignment have been selected through preliminary engineering and final design. Both for noise and vibration, there are three levels of analysis described. The framework acts as a screening process, reserving detailed analysis for projects with the greatest potential for impacts while allowing a simpler process for projects with little or no effects. This guidance contains noise and vibration impact criteria that are used to assess the magnitude of predicted impacts. A range of mitigation is described for dealing with adverse noise and vibration impacts.
49 CFR 210 (Federal Rail Administration (FRA) Railroad Noise Emission Compliance Standards) and FRA Guidance (2005)	This section and guidance provides contains criteria and procedures for use in analyzing the potential noise and vibration impacts of various types of high-speed fixed guideway transportation systems.
State	
CPUC Section 21670	The State Aeronautics Act of CPUC establishes statewide requirements for airport land use compatibility planning and requires nearly every county to create an Airport Land Use Commission or other alternative.

Table 3.5-9
Applicable Laws and Regulations for Noise

Applicable Regulations	Description
California Airport Noise Regulations promulgated in accordance with the State Aeronautics Act (21 CCR Section 5000 et seq.)	In Section 5006, the regulations state that: "The level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a CNEL value of 65 dBA for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep, and community reaction.
24 CCR, Part 2	These establish standards governing interior noise levels that apply to all new single-family and multi-family residential units in California. These standards require that acoustical studies be performed before construction at building locations where the existing L_{dn} exceeds 60 dBA. Such acoustical studies are required to establish mitigation that will limit maximum L_{dn} levels to 45 dBA in any habitable room.
Local	
City/County General Plan Noise Elements	Local general plans in California must include a noise element per Government Code Section 65302(f). The General Plan Guidelines maintained and published by OPR provide detailed guidance to local agencies on standards and methods of analysis that should be used when developing or updating a noise element. Local governments must analyze and quantify noise levels and the extent of noise exposure through actual measurement or the use of noise modeling. Technical data relating to mobile and point sources must be collected and synthesized into a set of noise control policies and programs that minimizes the exposure of community residents to excessive noise. Noise level contours must be mapped, and the conclusions of the element used as a basis for land use decisions. The noise element must include implementation measures and possible solutions to existing and foreseeable noise problems. Furthermore, the policies and standards must be sufficient to serve as a guideline for compliance with sound transmission control requirements. The noise element directly correlates to the land use, circulation, and housing elements. A noise element is to be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

Table 3.5-9
Applicable Laws and Regulations for Noise

Applicable Regulations	Description
City/County Noise Regulations	Most local governments in California maintain and enforce noise regulations contained in local codes and ordinances that apply to diverse types of activities in the community. These regulations may include noise standards that apply to construction activities associated with new development projects, as well as ongoing operational activities associated with existing or future land uses.

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

3.5.10 Population and Housing

The existing setting for aesthetic impacts is discussed on pages A-199 of Attachment A of the CARB ACT Final EA.

Population. According to the Census data, the estimated population of California in 2017 was 39,536,563. Since California became a state in 1850, the population has been increasing rapidly. Within the first 150 years of California's statehood, the population increased from fewer than 100,000 citizens to almost 34 million in 2000. It is expected that the population of California will reach and surpass the 50-million mark sometime between 2040 and 2050 if the current growth rates persist.

Housing. As population within the State increases, housing distribution and household conditions are expected to evolve. Estimated housing units, households, and vacancy rates for the State of California in 2019 are shown below in Table 3.5-10.

Table 3.5-10
California Housing Profile

Total Housing Units	13,680,081
Total households	12,577,498
Vacant housing units	1,102,583
Owner-occupied	7,035,371
Renter-occupied	15,691,211
Homeowner vacancy rate	2.1
Rental vacancy rate	6.3

Employment. In June 2018, the civilian labor force in California was approximately 19,341,000, and the unemployment rate decreased from 5.7 percent in January 2016 to 4.2 percent in June 2018.

3.5.10.1 Regulatory Setting

See land use planning and housing-related regulations in Section 3.5.7.1, Land Use and Planning.

3.5.11 Public Services

The existing setting for aesthetic impacts is discussed on pages A-201 of Attachment A of the CARB ACT Final EA.

3.5.11.1 Law Enforcement

California's environmental laws are enforced by a matrix of State and local agencies, some at CalEPA, each charged with enforcing the laws governing a specific media such as air, water, hazardous waste, solid waste, and pesticide laws, the Attorney General's Office, local District Attorneys and City Attorneys. The Attorney General represents the people of California in civil and criminal matters before trial courts, appellate courts, and the supreme courts of California and the U.S. Regarding environmental issues, the Attorney General enforces laws that safeguard the environment and natural resources in the state. Recent actions by the Attorney General related to air quality and climate change issues include filing numerous actions against the Trump Administration opposing federal rollbacks of environmental protection regulations and requiring implementation of existing rules. These actions involve a range of regulations, including those concerning GHG emissions from stationary sources and vehicles, regulations of toxic air pollution, and planning requirements for criteria pollution planning. The Attorney General also continues to work broadly to support CARB actions, including working with local governments to ensure that land use planning processes take account of global warming, promoting renewable energy and enhanced energy efficiency in California, and working with other State leaders and agencies to implement AB 32, the Global Warming Solutions Act of 2006.

CalEPA was created in 1991 by Governor's Executive Order. CalEPA's mission is to restore, protect and enhance the environment, to ensure public health, environmental quality, and economic vitality. CalEPA is composed of various boards, departments, and offices, including: CARB, Department of Pesticide Regulation, DTSC, OEHHA, and SWRCB (including the nine RWQCBs).

California's environmental laws are enforced by State and local agencies, each charged with enforcing the laws governing a specific media such as air, water, hazardous waste, solid waste, and pesticides. Enforcement agencies for these media are as follows:

- Air: CARB (part of CalEPA) and Local Air Districts.
- Water: SWRCB (part of CalEPA), RWQCBs (part of CalEPA), local wastewater officials, and the California Department of Public Health.
- Hazardous Waste: DTSC (part of CalEPA) and CUPAs.
- Carcinogens/Reproductive Toxins: Prop. 65 through OEHHA (part of CalEPA).
- Pesticides: Department of Pesticide Regulation (part of CalEPA) and County Agricultural Commissioners

Statewide law enforcement service is provided by the California Highway Patrol, which is responsible for protecting State resources and providing crime prevention services and traffic enforcement along the State's highways and byways.

Community law enforcement service is provided by local police and sheriff agencies (i.e., cities and counties, respectively) to prevent crime, respond to emergency incidents, and provide traffic enforcement on local roadways.

3.5.11.2 Fire Protection and Emergency Medical Response Services

State-level fire protection and emergency response service is provided by the California Department of Forestry and Fire Protection (CAL FIRE), primarily in rural areas of the State. CAL FIRE is an emergency response and resource protection department. CAL FIRE protects lives, property, and natural resources from fire, responds to emergencies of all types, and protects and preserves timberlands, wildlands, and urban forests.

Local and urban fire protection service is provided by local fire districts and/or local agencies (e.g., fire departments of cities and counties). In addition to providing fire response services most fire agencies also provide emergency medical response services (i.e., ambulance services) within their service areas.

3.5.11.3 Schools

Statewide, the regulation of education for youth is provided by the California Department of Education. The State Board of Education (SBE) is the governing and policy-making body of the California Department of Education. SBE sets K-12 education policy in the areas of standards, instructional materials, assessment, and accountability. Locally, school districts are responsible for the management and development of elementary, middle, and high-school facilities.

3.5.11.4 Regulatory Setting

Applicable laws and regulations associated with public services are discussed in Table 3.5-11.

Table 3.5-11
Applicable Laws and Regulations for Public Services

Applicable Regulations	Description
Federal	
American with Disabilities Act	Guidelines to ensure that facilities are accessible to individuals with disabilities. Implements requirements for the design and construction of buildings.
State	
State Fire Responsibility Areas	Areas delineated by CAL FIRE for which the State assumes primary financial responsibility for protecting natural resources from damages of fire. Local jurisdictions are required to adopt minimum recommended requirements for road design, road identification, emergency fire suppression and fuel breaks and greenbelts. All projects within or adjacent to a State Fire Responsibility Area must meet these requirements.
State School Funding	Education Code Section 17620 authorizes school districts to levy a fee, charge, dedication, or other requirement for any development project for the construction or reconstruction of school facilities.

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

3.5.12 Recreation

The existing setting for aesthetic impacts is discussed on pages A-203 of Attachment A of the CARB ACT Final EA. California contain approximately 14,000 parks, managed by nearly 1,000 agencies (CSP 2018). The California Outdoor Recreation Plan and associated research provide policy guidance to all public agencies – federal, state, local, and special districts that oversee outdoor recreation on lands, facilities, and services throughout California. Agencies and departments that are involved in recreational activities include Boating and Waterways, Fish and Wildlife, Tahoe Regional Planning Association, various conservancies, and others.

Recreational lands and facilities are also managed by regional and local park and recreation agencies and open space districts. City and county general plans contain recreation elements that provide framework for planning agencies to consider when projects are developed and implemented.

3.5.12.1 Regulatory Setting

Applicable laws and regulations associated with recreation are discussed in Table 3.5-12.

Table 3.5-12
Applicable Laws and Regulations for Recreation

Applicable Regulations	Description
Federal	
FLPMA, 1976 – 43 CFR 1600	Establishes public land policy; guidelines for administration; and provides for the "multiple use" management, protection, development, and enhancement of public lands. Multiple use management, defined as "management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people" with recreation identified as one of the resource values.
Local	
General Plans	General plans for cities and counties contain designations for recreational areas. These are policy documents with planned land use maps and related information that are designed to give long-range guidance to those local officials making decisions affecting the growth and resources of their jurisdictions. Because of the number and variety of general plans and related local plans, they are not listed individually.

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

3.5.13 Utilities and Service Systems

The existing setting for aesthetic impacts is discussed on pages A-206 of Attachment A of the CARB ACT Final EA.

3.5.13.1 Water Supply and Distribution

The principal water supply facilities in California are operated by USBR and DWR. In California, the Mid-Pacific Region of USBR is responsible for the management of the Central Valley Project

(CVP). The CVP serves farms, homes, and industry in California's Central Valley as well as the major urban centers in the San Francisco Bay Area. The CVP consists of 20 dams and reservoirs, 11 power plants, and 500 miles of major canals and reaches from the Cascade Mountains near Redding in the north to the Tehachapi Mountains near Bakersfield in the south. In addition to delivering water for municipal and industrial uses and the environment, the CVP produces electric power and provides flood protection, navigation, recreation, and water quality benefits.

DWR is a State agency that is responsible for managing and implementing the State Water Project (SWP). The SWP is a water storage and delivery system of reservoirs, aqueducts, power plants and pumping plants. Its main purpose is to store water and distribute it to 29 urban and agricultural water suppliers in Northern California, the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California.

Local water districts, irrigation districts, special districts, and jurisdictions (e.g., cities and counties) manage and regulate the availability of water supplies and the treatment and delivery of water to individual projects. Depending on their location and the source of their supplies, these agencies may use groundwater, surface water through specific water entitlements, or surface water delivered through the CVP or SWP. In some remote areas not served by a water supply agency, individual developments may need to rely upon the underlying groundwater basin for their water supply. In these cases, the project would be required to secure a permit from the local or State land use authority and seek approval for development of the groundwater well(s).

3.5.13.2 Wastewater Collection and Treatment

SWRCB is the State agency responsible for the regulation of wastewater discharges to surface waters and groundwater via land discharge. SWRCB and nine RWQCBs are responsible for development and enforcement of water quality objectives and implementation plans that protect the beneficial uses of the federal and State waters. SWRCB also administers water rights in California. The RWQCB's are responsible for issuing permits or other discharge requirements to individual wastewater dischargers and for ensuring that they are meeting the requirements of the permit through monitoring and other controls.

Wastewater collection, treatment, and discharge service for developed and metropolitan areas is typically provided by local wastewater service districts or agencies that may or may not be operated by the local jurisdiction (e.g., city or county). These agencies are required to secure treatment and discharge permits for the operation of a wastewater facility from the RWQCB. Wastewater is typically collected from a specific development and conveyed through a series of large pipelines to the treatment facility where it is treated to permitted levels and discharged to surface waters or the land.

In areas that are remote or that are not served by an individual wastewater service provider, developments would be required to install an individual septic tank or other on-site wastewater treatment system. These facilities would need to be approved by the local or State land use authority and the RWQCB.

3.5.13.3 Solid Waste Collection and Disposal

Statewide, the California Department of Resources Recycling and Recovery (CalRecycle), is responsible for the regulation of the disposal and recycling of all solid waste generated in California. CalRecycle acts as an enforcement agency in the approval and regulation of solid waste disposal and recycling facilities. Local agencies can create local enforcement agencies; and, once

approved by CalRecycle, they can serve as the enforcement agency for landfills and recycling facilities with their jurisdictions.

Local agencies or private companies own and operate landfill facilities and solid waste is typically hauled to these facilities by private or public haulers. Individual projects would need to coordinate with the local service provider and landfill to determine if adequate capacity exists to serve the project.

3.5.13.4 Regulatory Setting

Applicable laws and regulations associated with utilities are discussed in Table 3.5-13.

Table 3.5-13
Applicable Laws and Regulations for Utilities and Service Systems

Applicable Regulations	Description
Federal	
Federal Power Act of 1935	In the Federal Power Act of 1935 (49 Stat. 803), created the Federal Power Commission, an independent regulatory agency with authority over both the interstate transmission of electricity and the sale of hydroelectric power at the wholesale level. The act requires the commission to ensure that electricity rates are "reasonable, nondiscriminatory and just to the consumer." The Federal Power Act of 1935 also amended the criteria that the commission must apply in deciding whether to license the construction and operation of new hydroelectric facilities.
Natural Gas Act (NGA) of 1938	Together with the Federal Power Act of 1935, the NGA (P.L. 75-688, 52 Stat. 821) was an essential piece of energy legislation in the first half of the 20th century. These statutes regulated interstate activities of the electric and natural gas industries, respectively. The acts are similarly structured and constitute the classic form of command-and-control regulation authorizing the federal government to enter into a regulatory compact with utilities. In short, the NGA enabled federal regulators to set prices for gas sold in interstate commerce in exchange for exclusive rights to transport the gas.
Natural Gas Policy Act (NGPA) of 1978	The NGPA granted the FERC authority over intrastate as well as interstate natural gas production. The NGPA established price ceilings for wellhead first sales of gas that vary with the applicable gas category and gradually increase over time.
State	
Waste Heat and Carbon Emissions Reduction Act of 2007	The Waste Heat and Carbon Emissions Reduction Act of 2007 (AB 1613), placed requirements on CPUC, CEC, and local electric utilities to develop incentive programs and technical efficiency guidelines to encourage the installation of small CHP systems. CEC approved efficiency and certification guidelines for eligible systems under AB 1613 in January 2010, and CPUC approved standardized contracting and pricing provisions between CHP operators and the Investor Owned Utilities in November 2012.

Table 3.5-13
Applicable Laws and Regulations for Utilities and Service Systems

Applicable Regulations	Description
AB 1900 (Statutes of 2012)	AB 1900 (Gatto, Chapter 602, Statutes of 2012) directed CPUC to adopt natural gas constituent standards (in consultation with CARB and OEHHA). The legislation is also designed to streamline and standardize customer pipeline access rules and encourage the development of statewide policies and programs to promote all sources of biomethane production and distribution.
Section 21151.9 of the PRC/ Water Code Section 10910 et seq.	Required the preparation of a water supply assessment (WSA) for large developments. These assessments are prepared by public water agencies responsible for providing service and address whether there are adequate existing and projected future water supplies to serve the proposed project. All projects that meet the qualifications for preparing a WSA must identify the water supplies and quantities that would serve the project as well as project the total water demand for the service area (including the project's water demands) by source in 5-year increments over a 20-year period. This information must include data for a normal, single-dry, and multiple-dry years. The WSA is required to be approved by the water service agency before the project can be implemented.
Local	
City/County General Plan	Local general plans in California must include a circulation element per Government Code Section 65302(b), which includes identification of the locations and extent of existing and proposed public utilities and facilities. The circulation element of a general plan should assess the adequacy and availability of community water, sewer, and drainage facilities and the need for expansion and improvements; trends in peak and average daily flows; the number and location of existing and proposed power plants, oil and gas pipelines, and major electric transmission lines and corridors; existing and projected capacity of treatment plants and trunk lines; and potential future development of power plants (OPR 2003).
City/County Codes and Ordinances	Most cities and counties have adopted municipal codes and ordinances that pertain to utilities and service systems. Local codes and ordinances include, but not limited to, limitations on the locations of wells, sewers, and other water-related facilities; and development standards for future utility land use projects.

Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

CHAPTER 4 ENVIRONMENTAL IMPACT ANALYSIS AND MITIGATION MEASURES

4.0 INTRODUCTION

The CEQA Guidelines require environmental documents to identify significant environmental effects that may result from a proposed project (CEQA Guidelines Section 15126.2(a)).

> "Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services…"

The CEQA Guidelines further explain the level of specificity an EIR must contain (CEQA Guidelines, Section 15151):

> "An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."

The CEQA Guidelines also indicate that the degree of specificity required in a CEQA document depends on the type of project being proposed (CEQA Guidelines Section 15146). The detail of the environmental analysis for certain types of projects cannot be as great as for others.

CEQA generally defers to lead agencies on the choice of methodology to analyze impacts. (*Santa Monica Baykeeper v. City of Malibu* (2011) 193 Cal.App.4th 1538, 1546; *see Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 409 ["the issue is not whether the studies are irrefutable or whether they could have been better" … rather, the "relevant issue is only whether the studies are sufficiently credible to be considered" as part of the lead agency's overall evaluation].)

While lead agencies must use their best efforts to find out and disclose all that they reasonably can about a project's potentially significant environmental impacts, they are not required to predict the future or foresee the unforeseeable (CEQA Guidelines Section 15144).

> "If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact" (CEQA Guidelines Section 15145).

To assist in the determination of significance, many lead agencies rely on 'thresholds of significance.' The CEQA Guidelines define a 'threshold of significance' to mean "an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant." (CEQA Guidelines Section 15064.7(a)). Lead agencies have discretion to develop and adopt their own thresholds, or rely on thresholds recommended by other agencies, "provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." [Id. at subd. (c); *Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1068.] Substantial evidence means "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached." [Id. at § 15384 (emphasis added); *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1108-1109.]

In addition, this EA incorporates by reference analysis in the CARB ACT Regulation EA, which analyzed potential impacts resulting from the construction of new manufacturing and recycling facilities that may occur as a result of the transition from conventional vehicles to NZE and ZE vehicles. The CARB EA concluded these actions may have potentially significant impacts in the following areas: Aesthetics, Agriculture and Forestry Resources, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Land Use and Planning, Noise, Public Services, Recreation, and Utilities and Service Systems. These impact areas are discussed in Chapter 4.5, Other Impact Areas.

This EA also tiers off of the 2017 Final Program EIR for the 2016 AQMP, which analyzed the potential environmental impacts of the measures included in that program, including Control Measure MOB-03, an indirect source rule for warehouses. The 2016 AQMP EIR concluded that implementation of the AQMP, including Control Measure MOB-03, would have significant and unavoidable impacts in the following areas: aesthetics, construction air quality and GHG emissions, energy (increased electricity demand), hazards and hazardous materials, water demand, construction noise and vibration, solid waste, and transportation and traffic. It also concluded that implementation of the AQMP would have significant and unavoidable cumulative impacts. The proposed project is consistent with the AQMP because it implements Control Measure MOB-03. The following impacts analysis incorporates the 2016 AQMP EIR by reference, where appropriate, as well.

Appendix G to the CEQA Guidelines contains a list of environmental factors and resources that may be impacted by a project, ranging from aesthetics to tribal cultural resources. Each of these factors and resources is discussed in the Notice of Preparation/Initial Study (NOP/IS) prepared for the proposed project. As explained in Chapter 1, this EA focuses primarily on the following impact areas for the direct impacts form the proposed project: Air Quality and Greenhouse Gas Emissions, Energy, Hazardous Materials and Solid and Hazardous Waste, and Transportation.

As explained in Chapter 1, the analysis of the proposed project indicated that an EA, which is equivalent to an Environmental Impact Report, is the appropriate type of CEQA document to be prepared. If significant adverse environmental impacts are identified, the CEQA Guidelines require a discussion of measures that could either avoid or substantially reduce any adverse environmental impacts to the greatest extent feasible (CEQA Guidelines Section 15126.4).

4.0.1 Overview of Impact Analysis

The proposed project (also referred to as the ˈWAIRE Programˈ) analyzed in this EA is PR 2305 and the mitigation program, and PR 316. The proposed project would require qualifying-sized warehouses located within the South Coast AQMDˈs jurisdiction to earn WAIRE Points. By requiring warehouse operators to earn WAIRE Points that count towards a warehouse operatorˈs WPCO, implementation of the proposed project would accelerate use of cleaner technologies for mobile sources associated with warehouse operations.

Because the proposed project is a rule that will govern future activities, and because the rule allows regulated parties to comply in a variety of ways, it is impossible to predict or forecast precisely what the environmental impacts of the rule will be. However, to provide a conservative estimate of these impacts, the EA made certain assumptions based on modeling, studies, and other evidence, as explained below. It is important to note that due to the variety of compliance outcomes, annual updates on the implementation of the proposed project will be provided to the South Coast AQMD Mobile Source Committee to provide regular tracking, check-ins, and opportunity for public input.

4.0.1.1 Potentially Significant Environmental Impacts Analyzed

The Notice of Preparation/Initial Study (NOP/IS) circulated in November 2020 identified the topics of air quality and GHG emissions, energy, and transportation as potentially significant impacts of the proposed project. Comments on the NOP/IS further requested that this EA analyze the potential environmental effects associated with the development of new facilities, including manufacturing, recycling, and grid infrastructure facilities, that could result from warehouse operators purchasing or using zero-emissions vehicles to comply with the proposed project. This development, which is an indirect impact of the proposed project, could also have potentially significant impacts in the areas of Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Land Use and Planning, Noise, and Utilities and Service Systems. Therefore, these environmental topics have been analyzed in this EA. Additionally, based on comments on the NOP/IS, hazardous and solid and hazardous waste impacts from increased disposal of batteries and hydrogen fuel cells on recycling infrastructure are also included in this EA.

4.0.1.1.1 2016 AQMP Program EIR

This EA, tiers off the 2016 Air Quality Management Plan (AQMP) Program Environmental Impact Report (EIR). The EIR concluded that the AQMP, including Control Measure MOB-03 – Emission Reductions at Warehouse Distribution Centers, would have significant, unavoidable impacts in the following areas:

- Aesthetics (glare from solar panels, construction and operation of catenary lines and use of bonnets at Ports of Los Angeles and Long Beach)
- Air Quality and Greenhouse Gases (Construction)
- Energy (increased electricity demand)
- Hazards and Hazardous Materials (flammability of replacement of solvents/coatings/adhesives/sealants; storage or accidental release of ammonia in the non-refinery sector; storage and transportation of LNG fuel; and transport of ammonia and impacts to schools)
- Noise (construction noise and vibration)

- Solid and Hazardous Waste (construction waste and vehicle/equipment scrapping)
- Transportation (traffic and circulation)

In reaching this conclusion, this EA considered the potential impacts associated with Control Measure MOB-03, which required the assessment and identification of potential actions to reduce emissions associated with mobile sources operating in and out of warehouse distribution centers. In particular, the 2016 AQMP Program EIR identifies that South Coast AQMD has lead responsibility for developing stationary, some area, and indirect source control measures and considers development of indirect source regulations in the Program EIR.

The Program EIR concluded that the 2016 AQMP, as mitigated, would have the following less than significant impacts:

- Air Quality and Greenhouse Gases (operational phase; increased electricity; operation of air pollution control equipment; lower VOC materials; mobile sources; miscellaneous sources; TAC emissions; and GHG emissions)
- Energy (increased demand of alternative fuels)
- Hazards and Hazardous Materials (routine use and transport of alternative fuels and caustic, catalysts, acidifiers, and sodium bisulfate; spills; transportation of alternative fuels; storage or accidental release of ammonia in the refinery sector; and sites on a government list)
- Hydrology and Water Quality (wastewater treatment; water quality standards from accidental spills; use of electric vehicles, ammonia, and bisulfate; water conveyance; and groundwater depletion)
- Noise (operational noise and vibration)
- Solid and Hazardous Waste (waste from ZE vehicles and air pollution control technology)

As explained in Chapter 1, the analysis in that Program EIR provided a "sufficient level of detail to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of" the proposed project with respect to the following impact areas: Energy, Hazards, Noise, Solid and Hazardous Waste, Aesthetics (California Public Resources Code Section 21094(a)(2)). Nonetheless, this EA provides additional information and analysis in each of these impact areas, as well.

4.0.1.2 WAIRE Points Scenario Modeling

Modeling was conducted by South Coast AQMD based on the proposed project Rule Stringency (see Chapter 2) to forecast the potential WAIRE Points that could be earned by warehouses in the South Coast AQMD region to satisfy the warehouse operator's WAIRE Points Compliance Obligation (WPCO). The regulated warehouses can earn WAIRE Points by completing any combination of 1) implementing actions from the WAIRE Menu (PR 2305 Table 3); 2) implementing an approved Custom WAIRE Plan; and 3) paying a mitigation fee. The WAIRE Menu has 32 compliance options, and any approved Custom WAIRE Plan which could include compliance options that are not on the WAIRE Menu. The warehouse operator's strategies to satisfy their WPCO may vary from year to year. Since it is speculative to determine individual market actions operators will choose to comply with the proposed project, this EA considers the scenarios in Table 4-1 as a way to identify the environmental impacts of the WAIRE Points isolated for each individual compliance option. The WAIRE Points scenarios modeled serve as a bounding

analysis approach, whereby all 2,902 warehouses were assumed to only comply with a single scenario approach from 2021 through 2031. No single scenario in this bounding analysis is expected to occur. Rather, they present possible extreme compliance outcomes, and thus provide a conservative estimate of potential impacts. In reality, a hybrid of all scenarios (or other compliance approaches encompassed within the range of scenarios analyzed) is expected to occur.

Table 4-1
WAIRE Points Scenario Modeling

Scenario #	Description
Scenario 1	NZE Class 8 truck acquisitions and subsequent visits from those trucks
Scenario 2	NZE Class 8 truck acquisitions and subsequent visits from those trucks (early purchase)[a]
Scenario 3	NZE Class 8 truck acquisitions (funded by Carl Moyer program) and subsequent visits from those trucks[b, c]
Scenario 4	NZE Class 8 truck visits from non-owned fleets[c]
Scenario 5	ZE Class 8 truck visits from non-owned fleets[c,d]
Scenario 6	Level 3 charger installations followed by ZE Class 6 & Class 8 truck acquisitions and subsequent visits from those trucks, using installed chargers[e]
Scenario 7	Pay Mitigation Fee
Scenario 8	NZE Class 6 truck acquisitions and subsequent visits from those trucks
Scenario 9	NZE Class 6 truck visits from non-owned fleets[c]
Scenario 10	ZE Class 6 truck visits from non-owned fleets[c]
Scenario 11	Rooftop solar panel installations and usage[f]
Scenario 12	Hydrogen station installations followed by ZE Class 8 truck acquisitions and subsequent visits from those trucks, using the hydrogen station[g]
Scenario 13	ZE Class 2b-3 truck acquisitions and subsequent visits from those trucks
Scenario 14	ZE Class 2b-3 truck visits from non-owned fleets
Scenario 15	Filter System Installations
Scenario 16	Filter Purchases
Scenario 17	TRU plug installations and usage in cold storage facilities[h]
Scenario 18	ZE Hostler Acquisitions and Usage

Notes: MERV: Maximum Efficiency Reporting Value
[a] One additional truck is acquired earlier than required, thus increasing WAIRE Points earned from truck visits in subsequent years.
[b] Mitigation fees paid to earn WAIRE Points in first year of compliance.
[c] No WAIRE Points earned for truck acquisitions.
[d] ZE Class 8 trucks are assumed to not be commercially available until late 2022. Mitigation fees paid to earn WAIRE Points until then.
[e] Chargers provide ~30,000 kWh/year per Class 6 truck, and ~90,000 kWh/yr per Class 8 truck. Class 8 trucks only acquired if 25 Class 6 trucks had been previously purchased for one warehouse.
[f] Solar panel coverage limited to 50 percent of building square footage. Mitigation fees used to make up any shortfall in WAIRE Points.
[g] System installation in first year is followed by a truck acquisition. In subsequent years trucks are only acquired if needed to earn WAIRE Points.
[h] Scenario is only applied to cold storage warehouses. Plugs limited to 1:10,000 sq. ft. of building space.

The scenario modeling in this EA isolates the effect of the WAIRE Program from other South Coast AQMD and existing CARB regulations, including the Advanced Clean Trucks (ACT) Regulation, Low NOx Omnibus Regulation, and the upcoming Heavy-Duty Inspection and Maintenance Program. The incremental effect of the WAIRE Program above and beyond the existing regulations is based on the CARB Mobile Source Strategy Mobile Emissions Toolkit for Analysis (META), which estimates the potential emissions benefits from these planned rules not yet included in CARB's EMFAC2017 model for each vehicle category.[1] The scenario modeling is included in the Preliminary Draft Staff Report (PDSR) and modeling spreadsheet is included online: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures/fbmsm-mtngs.

Each scenario assumes the entire universe of warehouses meet their WPCO only through that action in each scenario. The currently proposed rule stringency is 0.0025 WAIRE Point per Weighted Annual Truck Trips (WATTs) with a linear three-year phase-in schedule. As proposed, the full stringency of 0.0025 would not be achieved until the third compliance period for each warehouse and all three Phases will be at full stringency in the fifth compliance period. The universe of warehouses that are anticipated to earn points through the WAIRE Program includes a total of 2,902 warehouses totaling 759,287,371 square feet. This square footage is based on a model output in the 2018 Final Industrial Warehousing in the SCAG Region report, prepared for Southern California Association of Government (SCAG) by Cambridge Systematics, Inc, and accounts for possible growth.[2] The same three-Phase distribution and split between warehouse secondary types (i.e. whether a warehouse was a cold storage or not) as year 2020 were assumed for the growth analysis in each year.

Each warehouse's WPCO was obtained by considering the WATTs for each warehouse and rule stringency. Regardless of the action taken by each warehouse to comply in each scenario, the WPCO determines the level of implementation for each action with respect to its associated annualized metric in the WAIRE Menu. In the scenario modeling it was assumed that usage of equipment and/or trucks takes place a year after installation and/or truck purchase. Therefore, usage points are earned in the following year after installations and/or purchases points are earned. In scenarios involving trucks acquisition and visits, visits are considered to be only from the purchases and not from non-owned fleet. For the purpose of this analysis, 10 visits per week and total of 520 visits per year was assumed in scenarios with truck visits. The algorithm in the scenario analysis always compares points earned under action implementation with the WPCO for each warehouse. If the number of WAIRE Points earned in a single year is greater than a warehouse's WPCO, the difference would be saved as banked points. If the sum of banked from three prior years and concurrently earned WAIRE Points in a given year is greater than that warehouse's WPCO, no further action is required in that year. If not, then that warehouse is assumed to take additional action under that scenario based on its WPCO and points earned within that year. If a warehouse could not meet their WPCO requirement under the action considered in a scenario, they could pay a mitigation fee proportional to their points in deficit. The mitigation fee is set at $1,000 per WAIRE Point. Specifically, the mitigation fee was considered as an alternative to meet WPCO requirements in Scenarios 3, 5, 11 and 17.

[1] California Air Resources Board (CARB). Mobile Source Strategy Mobile Emissions Toolkit for Analysis (META). https://content.govdelivery.com/accounts/CARB/bulletins/2a3e7dc

[2] Southern California Association of Governments (SCAG). 2018, April. Final Industrial Warehousing in the SCAG Region. .https://scag.ca.gov/sites/main/files/file-attachments/final_report_03_30_18.pdf

Key data sources used for developing the emission benefits under each scenario are: EMFAC2017 for developing class-specific truck emission rates (as discussed in WAIRE Program Technical Document) and CARB's Mobile Emissions Toolkit for Analysis (META) for South Coast to account for emission reductions from CARB's ACT Regulation, California Low NOx Omnibus regulations and Heavy-Duty Inspection and Maintenance (HD I/M) program; NOx Emission Rates from Continuous Emissions Monitoring Systems (CEMS) for Power Plants in South Coast AQMD Jurisdiction from 2016 to 2019 for Scenario 11; CARB's Draft 2019 TRU Emissions Inventory Output for Single Body Truck TRU Under Regulation Concept Scenario for Scenario 17; Power Systems Research Data on Population of hostlers and Carl Moyer Program Guidelines Appendix D for Emission Rates of NOx and DPM along with Orion off-road Emissions Inventory for CO_2 for Scenario 18.

In sum, because of the programmatic nature of the proposed project, it is not possible to predict how each of the warehouse operators will comply with the WAIRE Program. As a result, it is not possible to forecast a particular, region-wide compliance approach for the initial 2,902 warehouses that would likely need to earn WAIRE Points in any given year. Instead, the EA analyzes the potential environmental impacts that would result if all owners subject to the proposed project chose one of the 'scenarios' described above as their compliance path from 2021 through 2031 to meet their WPCO. This approach allows for the analysis of environmental impacts associated with each of the individual compliance options as well as the range of environmental impacts and benefits from the proposed project that could be anticipated. The EA provides 'book-ends' of the range of potential environmental consequences associated with the proposed project to provide a framework for understanding the greatest potential impacts in each topic area. The analysis in this EA uses the scenario approach outlined above in order to provide a conservative analysis of potential impacts of the WAIRE Program.

4.0.1.3 Goods Movement

4.0.1.3.1 Potential Warehouse Relocations

The warehousing industry in the South Coast AQMD is robust. It has grown at faster rates than surrounding areas, all while experiencing consistent increases in rent that have outpaced neighboring markets. The Industrial Economics, Incorporated (IEc) Study titled "Assessment of Warehouse Relocations Associated with the South Coast AQMD Warehouse ISR" analyzes potential warehouse relocations to neighboring real estate markets outside of the South Coast AQMD's jurisdiction in response to the WAIRE Program. Industry stakeholders interviewed as part of the IEc Study pointed to several benefits that warehouses rely on that are unique to this area, including the highly developed transportation network of multiple ports, railways, and interstate highways, along with a large labor pool that is difficult to access in more remote regions, and proximity to the large metropolitan customer base.

IEc modeled the potential relocation of warehouses with and without the proposed project using two different methods, taking into account different costs in neighboring markets such as rent, labor, utilities, transportation, etc., as well as costs associated with different potential stringencies of the proposed project. The IEc Study concluded that, using the most conservative methodology, the proposed rule would not lead operators to locate new warehouse outside of the South Coast AQMD's jurisdiction if the rule stringency results in an annual compliance cost of $1.50 per square foot or less of warehouse space. Under the more conservative modeling methodology, the IEC Study found up to 10 warehouses potentially would relocate to neighboring regions today, even without the proposed project in place. Under the most conservative scenario at a rule stringency

that results in an annual compliance cost of $2.00 per square foot, the IEc Study concluded that the proposed rule could result in approximately six warehouses being built outside of the SCAB. Because the proposed rule stringency of 0.0025 WAIRE Points per Weighted Annual Truck Trips phased in over a three year period would result in compliance costs of approximately $0.78 per square foot, the IEc Study supports the conclusion that the proposed project would not result in any warehouse relocations. Nonetheless, this EA assumes the potential for up to three warehouse relocations to provide a conservative analysis of the project's potential impacts on operational air quality, GHG, energy, and transportation. An analysis of greater relocations is provided in the Alternatives section of the EA, which includes an alternative rule that uses a stringency resulting in compliance costs of $2.00 per square foot.

Although the EA assumes that the proposed project could result in more new warehouses being located outside of the South Coast AQMD's jurisdiction, it is important to note that the proposed project will not result in more warehouses being built overall. The proposed project will not create an increased demand for goods or warehouses. As a result, the EA does not analyze the potential impacts associated with the construction of new warehouses (which will occur either within the South Coast AQMD's jurisdiction or outside of it regardless of the proposed project). Moreover, any new warehouse would be subject to local government land use review and approval, including CEQA review.

4.0.1.3.2 Cargo Growth Diversion

The Ports of Los Angeles and Long Beach have recently studied the potential impacts of imposing clean truck fund rate on trucks transporting goods to and from the Ports pursuant to the Port's Clean Truck Program. In particular, this study analyzed whether the cost of complying with that proposed update would cause cargo owners to ship their goods to other ports. The studies concluded that it would be more cost effective for the vast majority of goods (98.6 percent) to continue using the ports of Los Angeles and Long Beach than to relocate to other ports, even if the Ports approved a new truck rate of $70 per twenty-foot equivalent (TEU).[3] The Ports ultimately approved a truck rate of $10/TEU,[4] though they have yet to implement the rate.

The Port's Clean Truck Program affects goods movement differently than the proposed project because of where the costs are incurred. As a result, the Port study is not directly applicable to the proposed project. While cargo owners have only one option if they do not wish to pay the cost of complying with the Port's Clean Truck Program—i.e., ship their cargo to a different port—they have more options under the proposed project. Specifically, cargo owners could either pay for the cost of compliance with the WAIRE Program, Program by continuing to utilize warehouses within the South Coast AQMD, relocate to a different port, or continue shipping their goods to the Ports of Los Angeles and Long Beach but utilize warehouses just outside of the South Coast AQMD's jurisdiction in a nearby area. The IEc Study found that at annual compliance costs of $2.00 per square foot (which is higher than the compliance cost of the proposed project) only up to six warehouses might relocate to a nearby region. Because moving to a nearby region increases the travel time by only a few hours[5], rather than 10+ days from moving to a different port on the east

[3] Port of Long Beach and Port of Los Angeles. 2020, February. Economic Study for the Clean Truck Fund Rate. https://cleanairactionplan.org/documents/economic-study-for-clean-truck-fund-rate.pdf/

[4] Port of Long Beach and Port of Los Angeles. 2020. March. 9. Board of Harbor Commissioner Minutes. https://polb.granicus.com/MinutesViewer.php?view_id=77&clip_id=7245

[5] For example, travel time without traffic from the ports to Bakersfield is about 2.5 hours, while travel time from the ports to Ontario (located in the Inland Empire) is about 1 hour.

coast, it is not reasonably foreseeable that cargo owners will ship their goods to other ports to avoid the cost of the proposed project if those costs are less than or equal to $2.00 per square foot as analyzed in the IEc Study.

While the Ports of Los Angeles and Long Beach have lost market share of containerized imports continuously since at least 2003[6], the reasons for this loss have been attributed to many macroeconomic causes that outweigh any increased regulatory costs in California, including labor stoppages in 2002 and 2014/2015, the widening of the Panama Canal in 2016, the recent shifting of some manufacturing from east China to southeast Asia in response to trade tensions,[7] increased investments in infrastructure at competing ports, the lack of increased trade with areas outside of east Asia, etc. Despite this longer term shift in global trade flows, containerized traffic at the Ports of Long Beach and Los Angeles have steadily increased[8] and is still expected to reach 34 million TEUs by 2040.[9]

Warehousing in the South Coast AQMD's jurisdiction has grown rapidly to accommodate this increased goods movement activity and is expected to continue.[10] Therefore, cargo growth diversion to ports outside of the Southern California region is not an anticipated consequence associated with the proposed project. However, this EA conservatively considers that the proposed project could contribute to potential cargo growth diversion at the Ports because of the uncertainty in the market response. While the Port Study[11] identifies up to 1.4 percent diversion, the percent contribution associated with the proposed project to this potential diversion, as noted above, that study is not directly applicable to the proposed project. Thus, the amount of potential cargo diversion associated with the proposed project is also speculative.[12] Similarly, it is speculative to identify where cargo would be diverted given the number of options of ports outside the South Coast AQMD's jurisdiction for international shipping companies. Therefore, these impacts are discussed qualitatively throughout this EA, where applicable.

4.0.1.4 Truck Replacements

The WAIRE Program creates a WAIRE Points incentive for warehouse operators and truck fleet operators, to purchase new NZE and ZE trucks, because purchasing and using these new, cleaner trucks is one way for warehouse operators to meet their WPCO. In analyzing the potential impacts of this WAIRE Points incentive, the EA assumes that these new trucks will be replacing older

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6 O'Connell, Jock. 2020, June. Briefing Paper: Los of US Market Share of West Coast Ports. Pacific Merchant Shipping Association https://www.pmsaship.com/wp-content/uploads/2019/12/Briefing-Paper-Loss-of-Market-Share-at-U.S.-West-Coast-Ports.pdf (Accessed January 6, 2021)

7 Strickland, Zach. 2019, August 17. Freight volumes shift to the east coast as companies attempt to navigate the trade war. American Shipper. https://www.freightwaves.com/news/freight-volumes-shift-east-as-supply-chains-move-out-of-china (Accessed January 6, 2021)

8 Port of Long Beach. 2020, November. Port Statistics. https://www.polb.com/business/port-statistics#latest-statistics (Accessed January 1, 2021), Port of Los Angeles. Container Statistics. 2021, January (Accessed). https://www.portoflosangeles.org/business/statistics/container-statistics

9 Southern California Association of Governments (SCAG). 2020, September 3. Transportation Goods Movement Technical Report. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_goods-movement.pdf

10 Southern California Association of Governments (SCAG). 2018, April. Final Industrial Warehousing in the SCAG Region. .https://scag.ca.gov/sites/main/files/file-attachments/final_report_03_30_18.pdf

11 Port of Long Beach and Port of Los Angeles. 2020, February. Economic Study for the Clean Truck Fund Rate. https://cleanairactionplan.org/documents/economic-study-for-clean-truck-fund-rate.pdf/

12 This differs from that identified in the PDSR in order to provide a conservative analysis of potential indirect environmental effect in this EA.

trucks because the WAIRE Program itself does not generate an increase in the national or even international demand for trucks used in the goods movement sector.

The EA further assumes that some of the older trucks that are replaced by NZE and ZE trucks will be retired (i.e., scrapped) and some will be sold to other operators (either within the South Coast AQMD's jurisdiction or outside of it) to replace even older, higher emissions trucks in that operator's truck fleet. Again, this assumption is based on the fact that the proposed project does not generate an increase in the national or even international demand for trucks used in the goods movement sector, and that truck operators generally do not replace newer, cleaner trucks with older, dirtier ones. In general, the average age of a truck in the United States is 12 to 15 years old.[13] When forecasting the demand for new trucks, truck manufactures must consider existing and pending rules and regulations since this affects the future demand. Thus truck manufactures must consider an increase in demand for NZE and ZE trucks, resulting in a nationwide trend for these new emerging technologies. Moreover, South Coast AQMD has an existing voucher inventive program to replace fleets that have older trucks with newer trucks. Rules and regulations being adopted and incentive programs offered are creating an increased demand for NZE and ZE technologies, resulting in turnover of older, diesel-fueled trucks. Thus, operators that purchase the trucks replaced by NZE and ZE trucks pursuant to the proposed rule would either be replacing an existing truck that has aged out of or is nearing the end its useful life or creating an increase in demand for NZE and ZE technology, resulting in greater turnover from diesel trucks to NZE and ZE trucks.

These assumptions are used in the analysis of the proposed project's environmental impacts and support the conclusion that the proposed project would result in a greater turnover of diesel trucks to NZE and ZE trucks than would have occurred without its implementation.

4.0.1.5 Indirect Impacts Associated with New Facility Construction

The proposed project would also encourage and incentivize the purchase and use of NZE and ZE vehicles. As a result, it could indirectly result in the construction and operation of new manufacturing and recycling facilities, as well as infrastructure improvements necessary to meet this increased demand for NZE and ZE vehicles. These potential impacts were analyzed in CARB's Final Environmental Analysis for the ACT Regulation, and this EA incorporates that analysis by reference here. Because these potential impacts are indirect, and because the circumstances surrounding any such future development are unknown, the analysis of the potential indirect impacts associated with this development is discussed separately from the analysis of the proposed project's direct impacts in this EA.

4.0.2 Cumulative Analysis

CEQA Guidelines Section 15130(a) requires a discussion of cumulative impacts if a project may have an effect that is potentially cumulatively considerable, as defined in CEQA Guidelines Section 15065(a)(3). The proposed project applies to qualifying-sized warehouses located within the South Coast AQMD's jurisdiction, which currently extends to 2,902 warehouses that would be

[13] Brusseau, Dawn. NTEA News. 2019, November. "Aging Trucks Create More Service Opportunities." https://www.ntea.com/NTEA/Member_benefits/Industry_leading_news/NTEANewsarticles/Aging_trucks_create_more_service_opportunities.aspx?fbclid=IwAR3mkimdcKilEbdqwvYYSwODX5Hop5g6odQWuQdIt9cJ37I30kwxgv209PU (Accessed December 28, 2020).

required to earn WAIRE Points (see Table 2-1). Due to the programmatic nature of the project, the analysis in Chapter 4 is inherently a cumulative analysis of potential impacts.

Per CEQA Guidelines Section 15130(e), previously approved land use documents, including, but not limited to, general plans, specific plans, regional transportation plans, plans for the reduction of greenhouse gas emissions, and local coastal plans may be used in a cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impacts analysis is required when a project is consistent with a general, specific, master, or comparable programmatic plan where the lead agency determines that the regional or areawide cumulative impacts of the proposed project have already been adequately addressed, as defined in CEQA Guidelines Section 15152(f), in a certified EIR for that plan. Further, if a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact, as provided in CEQA Guidelines Section 15183(j).

2016 AQMP Final Program EIR (State Clearinghouse No. 2016071006). The proposed project would implement the Facility-Based Mobile Source Measures (FBMSMs) included in the 2016 AQMP. The EIR for the 2016 AQMP analyzed the environmental impacts of all closely related projects including regulatory and incentive measures that would result in greater use of ZE and NZE vehicles. The FBMSMs are concentrated on the four sectors of the goods movement industry: commercial marine ports, rail yards, warehouse distribution centers, and commercial airports. Of these FBMSMs, Control Measure MOB-03 – Emission Reductions at Warehouse Distribution Centers, committed to exploring how to achieve emission reductions from this sector. As discussed in Chapter 1 – Introduction, this EA tiers off of the 2016 AQMP Final Program EIR, (State Clearinghouse No. 2016071006), pursuant to Public Resources Code section 21094 and Guidelines section 15152. In addition, consistent with CEQA Guidelines Section 15130(e), the cumulative impact analysis included in the 2016 AQMP Final Program Environmental Impact Report (EIR) (State Clearinghouse No. 2016071006) is incorporated by reference in this EA. The 2016 AQMP includes control measures to reduce emissions from sources that are primarily under state and federal jurisdiction, including on-road and off-road mobile sources that are proposed by, and the responsibility of CARB (i.e., CARB's Mobile Source Strategy). These emission reductions, along with the emission reductions from South Coast AQMD and SCAG's Regional Transportation Strategy and Control Measures, are needed to achieve the remaining emission reductions necessary for ozone and PM2.5 attainment.

State SIP Strategy Final Environmental Analysis (EA). Statewide emission reduction control measures proposed by CARB are included in the *2016 State Strategy for the State Implementation Plan for Federal Ozone and PM2.5 Standards* (State SIP Strategy), which was adopted in March 2017. Therefore, consistent with CEQA Guidelines Section 15130(e), the cumulative impact analysis included in the State SIP Strategy Final Environmental Analysis (EA) is incorporated by reference in this EA.[14] CARB is implementing the statewide emissions control strategies in the State SIP Strategy, which include the ACT Regulation and the Heavy-Duty Omnibus Regulation

[14] California Air Resources Board. (CARB). 2017, March 10. Final Environmental Analysis for the Revised Proposed State Strategy for the State Implementation Plan. https://ww3.arb.ca.gov/planning/sip/2016sip/rev2016statesip_ceqa.pdf

(Omnibus Regulation). This Draft EA considered the cumulative effect of CARB's proposed rules on potential reductions and relocations associated with the proposed project.

ACT Regulation EA. CARB prepared and certified an EA for ACT Regulation in accordance with the requirements of CEQA and CARB's certified regulatory program in July 2020. Therefore, consistent with CEQA Guidelines Section 15130(e), the cumulative impact analysis included in the ACT Regulation EA is incorporated by reference in this EA.

4.1 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

The overall purpose of the proposed project is to reduce NOx and fine PM emissions associated with warehouse operations within South Coast AQMD's jurisdiction. To accomplish this purpose, the proposed project incentivizes transition to NZE and ZE trucks. By requiring warehouse operators to earn WAIRE Points that count towards a warehouse operator's WPCO, implementation of the proposed project would accelerate use of cleaner technologies for mobile sources associated with warehouse operations.

Compliance with the proposed project may, in some cases, require construction of new ZE infrastructure. For example, if a warehouse chooses to meet its WPCO by constructing a new ZE charging station, that activity will require construction. As a result, compliance with the WAIRE Program could have potentially significant air quality impacts associated with that construction. These construction-related impacts are analyzed below.

Similarly, while the IEc Study determined that the WAIRE Program would not lead operators to locate a new warehouse outside of the South Coast AQMD's jurisdiction with a proposed project stringency of 0.0025 or less, this analysis nonetheless assumes the potential for up to three warehouse relocations in order to provide a conservative analysis of the proposed project's potential impacts. Similarly, while it is unlikely that cargo shipping companies may choose to divert their cargo to another port to avoid the compliance costs of the proposed project, this EA assumes that some diversion may occur. The air quality impacts associated with these market responses are considered 'operational' impacts of the proposed project and are analyzed below.

The proposed project would also encourage and incentivize the purchase and use of NZE and ZE vehicles instead of conventional gasoline and diesel vehicles. As a result, it could indirectly result in the construction and operation of new manufacturing and recycling facilities, as well as grid improvements, necessary to meet this increased demand for NZE and ZE vehicles and provide the energy and infrastructure to power them. These potential impacts were analyzed in CARB's Final Environmental Analysis for the Advanced Clean Trucks (ACT) Regulation, and this EA incorporates that analysis by reference here. Because these potential impacts are indirect, and because the circumstances surrounding any such future development are unknown, the analysis of the proposed project's potential indirect impacts on air quality and greenhouse gas (GHG) emissions associated with this development is discussed separately from the analysis of the proposed project's direct impacts.

In general, because the WAIRE Program allows warehouse operators to comply in a number of ways, it is not possible to determine the exact air quality impacts of the proposed project. Nonetheless, the following analysis provides a conservative estimate of potential air quality and GHG emissions impacts and benefits of the proposed project. A summary of the impact scenarios considered in this analysis is provided in Table 4.1-1.

Table 4.1-1
WAIRE Program Scenarios Considered for the Air Quality and GHG Emissions Impact Analysis

Scenario #	Scenario	Construction	Operational Phase		
			Warehouse Relocations	Electricity (GHG only)	AQ/GHG Benefits
Scenario 1	NZE Class 8 truck acquisitions and subsequent visits from those trucks	No	Yes	No	Yes
Scenario 2	NZE Class 8 truck acquisitions and subsequent visits from those trucks (early purchase)	No	Yes	No	Yes
Scenario 3	NZE Class 8 truck acquisitions (funded by Carl Moyer program) and subsequent visits from those trucks	No	Yes	No	Yes
Scenario 4	NZE Class 8 truck visits from non-owned fleets	No	Yes	No	Yes
Scenario 5	ZE Class 8 truck visits from non-owned fleets	No	Yes	No[b]	Yes
Scenario 6	Level 3 charger installations followed by ZE Class 6 & Class 8 truck acquisitions and subsequent visits from those trucks, using installed chargers	Yes	Yes	Yes	Yes
Scenario 7	Pay Mitigation Fee	No	Yes	No	Yes
Scenario 8	NZE Class 6 truck acquisitions and subsequent visits from those trucks	No	Yes	No	Yes
Scenario 9	NZE Class 6 truck visits from non-owned fleets	No	Yes	No	Yes
Scenario 10	ZE Class 6 truck visits from non-owned fleets	No	Yes	No	Yes
Scenario 11	Rooftop solar panel installations and usage	Yes[a]	Yes	Yes	Yes

Table 4.1-1
WAIRE Program Scenarios Considered for the Air Quality and GHG Emissions Impact Analysis

Scenario #	Scenario	Construction	Operational Phase		
			Warehouse Relocations	Electricity (GHG only)	AQ/GHG Benefits
Scenario 12	Hydrogen station installations followed by ZE Class 8 truck acquisitions and subsequent visits from those trucks, using the hydrogen station	Yes	Yes	No	Yes
Scenario 13	ZE Class 2b-3 truck acquisitions and subsequent visits from those trucks	No	Yes	No[b]	Yes
Scenario 14	ZE Class 2b-3 truck visits from non-owned fleets	No	Yes	No[b]	Yes
Scenario 15	Filter System Installations	Yes[a]	Yes	Yes	Yes
Scenario 16	Filter Purchases	No	Yes	No	Yes
Scenario 17	TRU plug installations and usage in cold storage facilities	No	Yes	Yes[c]	Yes
Scenario 18	ZE Hostler Acquisitions and Usage	Yes[a]	Yes	Yes	Yes

Notes:
[a] This scenario would generate construction emissions from worker and/or vendor deliveries but would not generate emissions from off-road equipment. As a result, construction emissions from this scenario are considered nominal and are not modeled.
[b] Energy from use and/or purchase of ZE trucks is considered under Scenario 6.
[c] Although ZE TRUs plugged in at docks would generate an increase demand for electricity, the WAIRE Points scenario modeling shows that the proposed project would not result in an incremental increase in demand for ZE TRUs above the baseline. Therefore, this scenario is not modeled.

4.1.1 Significance Criteria

The proposed project's air quality and GHG emissions impacts will be considered significant if the proposed project would:

a. Conflict with or obstruct implementation of the applicable air quality plan.

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

c. Expose sensitive receptors to substantial pollutant concentrations.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

e. Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s).

f. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

g. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Initial Study for the proposed project, under Chapter 2, Section II, *Air Quality and GHG Emissions*, Impact (a), identified that the proposed project would not conflict with the AQMP; under Impact (d), identified that the proposed project would not result odors adversely affecting a substantial number of people; and under Impact (e), identified that the proposed project would not dimmish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutants. Therefore, these significance criteria will not be discussed further in this EA.

4.1.1.1 Criteria Air Pollutants

To determine whether air quality impacts from implementing the proposed project are significant, emissions from criteria air pollutants will be quantified and compared to the South Coast AQMD's air quality significance criteria in Table 4.1-2. If emissions equal or exceed any of the air quality significance thresholds in Table 4.1-2, impacts will be considered potentially significant. All feasible mitigation measures must be identified and implemented to minimize significant impacts to the maximum extent feasible.

Table 4.1-2
South Coast AQMD Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction [b]**	**Operation [c]**
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO_2eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants [d]		
NO_2 1-hour average annual arithmetic mean	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour average annual average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation) 1.0 μg/m^3	
$PM_{2.5}$ 24-hour average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation)	
SO_2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 μg/m^3 (state)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average	1.5 μg/m^3 (state) 0.15 μg/m^3 (federal)	

[a] Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on South Coast AQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million μg/m^3 = microgram per cubic meter ≥ = greater than or equal to
MT/yr CO_2eq = metric tons per year of CO_2 equivalents > = greater than

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South Coast AQMD has developed CEQA significance thresholds for air quality for both construction and operation based on the maximum or peak emissions day.[1] Therefore, when analyzing the impacts of a permit or rule, the South Coast AQMD, as CEQA lead agency, makes significance determinations for construction and operational impacts based on the maximum or peak daily emissions during the construction of the project or project operation period, which provides a comprehensive analysis of the construction and operational emissions. Additionally, if there is an overlap between a project's construction and operational emissions, South Coast AQMD recommends that the overlapping emissions be summed and compared to the operational thresholds. Here, the proposed project is the WAIRE Program that requires warehouse operators to choose from a menu of options to reduce emissions associated with their operations. Thus, the air quality impacts attributable to the project are the impacts from reasonably foreseeable actions taken by warehouse operators to comply with the proposed project. As discussed below, the 'construction' activities associated with the proposed project include installation of ZE charging or fueling infrastructure (i.e., ZE chargers and hydrogen fueling stations), installation of solar panels, installation of additional 'plugs' to accommodate ZE transport refrigeration units (TRUs) or ZE cargo handling equipment, and installation of air conditioning (HVAC) systems. The 'operational' activities associated with the proposed project include potential warehouse relocations and cargo growth diversions and the use of cleaner technologies at warehouses with South Coast AQMD's jurisdiction including NZE and ZE trucks visiting the warehouse, ZE cargo handling equipment, ZE TRUs, operation of HVAC systems with Minimum Efficiency Reporting Value (MERV) of 16 (MERV-16), and operation of solar panels.

4.1.1.2 GHG Emissions

As noted in Table 4-3, the GHG emissions threshold for projects where South Coast AQMD is the Lead Agency is set at 10,000 metric tons of carbon dioxide (CO_2)-equivalent emissions ($MTCO_2eq$) per year. The South Coast AQMD convened a Greenhouse Gas CEQA Significance Threshold Working Group to consider a variety of benchmarks and potential significance thresholds to evaluate GHG impacts. On December 5, 2008, the South Coast AQMD adopted an interim CEQA GHG Significance Threshold for projects where South Coast AQMD is the lead agency.[2] South Coast AQMD prepared a "*Draft Guidance Document – Interim CEQA GHG Significance Thresholds*" that outlined the approved tiered approach to determine GHG significance of projects.[3] The first two tiers involve: 1) exempting the project because of potential reductions of GHG emissions allowed under CEQA; and, 2) demonstrating that the project's GHG emissions are consistent with a local general plan. Tier 3 proposes a limit of 10,000 $MTCO_2eq$ per year as the incremental increase representing a significance threshold for projects where South

[1] Construction activities are "short-term" activities that may occur as warehouse operators comply with the proposed project. Operational activities are the "long-term" effects associated with the proposed project implementation.

[2] South Coast AQMD. 2008, December 5. Interim CEQA GHG Significance Threshold for Stationary

Sources, Rules and Plans. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds

[3] South Coast AQMD. 2008, December 5. Interim CEQA GHG Significance Threshold for Stationary

Sources, Rules and Plans. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds, pg. 3-10

Coast AQMD is the lead agency.[4] Tier 4 (performance standards) is yet to be developed. Tier 5 allows offsets that would reduce the GHG impacts to below the Tier 3 brightline threshold. Projects with incremental increases below this threshold will not be cumulatively considerable.

4.1.1.3 Lifecycle Analysis

CEQA does not require a full lifecycle analysis of potential environmental effects. This is because the impact analysis in CEQA is subject to the rule of reason. Moreover, CEQA only requires analysis of impacts that are directly or indirectly attributable to the project under consideration (CEQA Guidelines Section 15064(d)). Lifecycle analysis in general may not be consistent with CEQA as the term 'lifecycle' could refer to emissions beyond those that could be considered 'indirect effects' of a project under CEQA Guidelines 15358.[5]

The Natural Resources Agency has indicated that a lifecycle analysis is not necessary to adequately analyze a project's energy or GHG impacts. Pursuant to the Natural Resources Agency's *Final Statement of Reasons for the Regulatory Action Amendments to the State CEQA Guidelines*, the energy impact analysis in CEQA is subject to the 'rule of reason.'

> "This [energy] analysis is subject to the rule of reason and shall focus on energy use that is caused by the project." (CEQA Guidelines Section 15126.2(b))

This was added to the CEQA Guidelines to place a reasonable limit on the analysis and signal that a full lifecycle analysis will generally not be required.[6]

Similarly, according to the *Final Statement of Reasons for the Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97*:

> "In some instances, materials may be manufactured for many different projects as a result of general market demand, regardless of whether one particular project proceeds. Thus, such emissions may not be "caused by" the project under consideration. Similarly, in this scenario, a lead agency may not be able to require mitigation for emissions that result from the manufacturing process. Mitigation can only be required for emissions that are actually caused by the project. (State CEQA Guidelines, § 15126.4(a)(4).) Conversely, other projects may spur the manufacture of certain materials, and in such cases, consideration of the indirect effects of a project resulting from the manufacture of its components may be appropriate. A lead agency must determine whether certain effects are indirect effects of a project, and where substantial evidence supports a fair argument that such effects are attributable to a project, that evidence must be considered. However, to avoid potential confusion regarding the scope of indirect effects that must be analyzed, the term "lifecycle" has been removed from Appendix F."

[4] South Coast AQMD. 2008, December 5. Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds,, pg. 3-11

[5] California Natural Resources Agency. 2009, December. Final Statement of Reasons for the Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97. https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Final_Statement_of_Reasons.pdf

[6] California Natural Resources Agency. 2018, November. Final Statement of Reasons for the Regulatory Action Amendments to the State CEQA Guidelines. OAL Notice File No. Z-2018-0116-12. https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf

Preparing a "lifecycle" analysis for the proposed project—i.e., an analysis of all of the potential energy, air quality, and GHG impacts associated with the proposed project's role in incentivizing the transition from diesel vehicles to NZE ZE vehicles—would also be speculative given that the proposed project allows regulated warehouses to comply through a number of different means. For all of these reasons, this EA does not attempt to provide such a lifecycle analysis.

4.1.2 Air Quality Impacts During Construction (Significance Criteria b and c)

Construction-related emissions can be distinguished as either onsite or offsite. Onsite emissions generated during construction principally consist of exhaust emissions (VOC, NOx, CO, SOx, PM10 and PM2.5) from heavy duty construction equipment operation, fugitive dust (primarily as PM10) from disturbed soil, and VOC emissions from asphaltic paving and painting. Offsite emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (primarily as PM10) from worker commute trips, material delivery trips, and haul truck material trips to and from the construction site.

Here, 'construction' activities associated with the proposed project include: the installation of ZE charging, installation of hydrogen fueling station, installation of solar panels, installation of additional 'plugs' to accommodate ZE transport refrigeration units (TRUs) or ZE cargo handling equipment, and installation of high-efficiency HVAC systems. This is because, warehouse operators may choose to comply with the proposed project by undertaking the following activities, all of which involve construction:

- **ZE Charger Installation (Scenario 6)**. Construction of ZE charging stations at existing warehouses would warrant use of heavy, off-road construction equipment, worker trips, and vendor deliveries. Based on information compiled for ZE charging station projects by South Coast AQMD, installation of ZE truck charging infrastructure at a warehouse is assumed to have a construction duration of two days, an estimated ZE charging pad size of 5,000 square feet, and the following construction equipment: one industrial concrete saw, one backhoe, one skid steer loader with augur attachment (bore/drill), one crane, and one cement mixer. Modeling for this scenario was conducted using CalEEMod Version 2016.3.2.
- **Hydrogen Fuel Stations (Scenario 12)**. Construction of hydrogen fueling stations at existing warehouses would warrant use of heavy, off-road construction equipment, worker trips, and vendor deliveries. Based on information compiled for similar fuel station projects at existing gas stations, installation of a hydrogen fueling station at a warehouse is assumed to have an 'active' construction duration of 2.5 months, on a 0.3-acre site, and the following construction equipment: one backhoe, one crane, and concrete and delivery trucks. Modeling for this scenario was conducted using CalEEMod Version 2016.3.2.
- **Solar Panel Installation (Scenario 11).** Installation of solar panels on warehouse rooftops would generate emissions from worker vehicle trips and vendor deliveries. It is not anticipated to require use of heavy, off-road construction equipment. Additionally, construction activities would occur over a short period (1-5 day). As a result, installation of solar panels is anticipated to have nominal construction emissions; and therefore, construction emissions were not modeled for this scenario.
- '**Plug**' **Installation for ZE TRUs (Scenario 17) or ZE Cargo Handling Equipment (Scenario 18)**. Installation of additional electric outlets to accommodate ZE equipment such as ZE TRUs and ZE cargo handling equipment at docks and building exterior/interior is

anticipated to result in emissions from construction worker trips. It is not anticipated to require substantial building modifications that would warrant use of heavy, off-road construction equipment. Additionally, construction activities would occur over a short period (1-5 days). As a result, installation of plugs/outlets at warehouses is anticipated to have nominal construction emissions; and therefore, construction emissions were not modeled for this scenario.

- **High Efficiency HVAC Filter System Installation (Scenario 15)**. Installation of HVAC equipment at sensitive land uses is anticipated to result in emissions from construction worker trips. It is not anticipated to require substantial building modifications that would warrant require use of heavy, off-road construction equipment. Additionally, construction activities would occur over a short period (1-5 days). As a result, installation of high efficiency HVACs filter systems is anticipated to have nominal construction emissions; and therefore, construction emissions were not modeled for this scenario.

Scenarios 1 through 5, 8 through 10, and 13 and 14 would allow WAIRE Points for purchase and use of NZE and ZE trucks and would not warrant short-term construction activities to implement. Likewise, Scenario 7 (mitigation fee), Scenario 16 (high efficiency filter purchases), and Scenario 18 (ZE cargo handling equipment purchase and use) would not warrant short-term construction activities to implement.

As discussed elsewhere in this EA, it is not possible to predict which WAIRE Points menu options each of the warehouse operators subject to the proposed project will choose. Moreover, the proposed project allows warehouse operators to propose a custom plan and/or pay a mitigation fee. Given that a warehouse operator has many factors to consider when choosing how to meet their WPCO, it is not possible to predict warehouse operator choices. Instead, this EA assessed the construction impacts associated with the scenarios listed above, and conducted construction modeling for Scenarios 6 and 12, the scenarios with the greatest potential construction air quality impacts.

For these two scenarios (Scenario 6 and Scenario 12), the model assumed that all warehouse operators subject to the WAIRE Program would select the same compliance option. Thus, for example, in Scenario 6, the model assumed all warehouse operators would comply with the WAIRE Program by installing ZE charges. Assumptions were then made to estimate combustion emissions for Scenario 6 and Scenario 12 from construction activities necessary to carry out the compliance option, including construction activities occurring onsite, offsite on-road emissions from worker trips, deliveries and haul trips, and onsite fugitive dust emissions.

Construction emissions were calculated for Scenarios 6 (ZE truck charger installation) and Scenario 12 (hydrogen fuel station installation) because these scenarios would warrant construction activities that are more intensive than the other WAIRE Points scenarios. The following WAIRE Points scenarios are not anticipated to require use of substantial off-road construction equipment: Scenario 11 (rooftop solar installation), Scenario 15 (high efficiency filters or filter systems installation), and Scenario 17 (TRU plug installations at cold storage facilities). As a result, WAIRE Points Scenario 6 and Scenario 12 represent the highest potential construction emissions scenarios associated with the proposed project and are used to conservatively estimate the 'worst case' emissions associated with the proposed project.

As identified previously, each of these WAIRE Point scenarios assumes that all warehouse operators selected that compliance option as the single, sole compliance option to meet their

WPCO. As a result, the highest emissions scenario represents the worst-case potential construction emissions associated with the proposed project. For Scenario 6, if 100 percent of warehouse facilities chose to install ZE chargers in the first year to meet their WPCO, then there would be up to 1,863 ZE charger installations. For Scenario 12, if 100 percent of warehouse facilities chose to meet their WPCO by installing hydrogen fueling infrastructure, then there would be 1,160 hydrogen fueling station installations in year 2024 (compliance year 3 is the worst-case year) that would install this equipment onsite.

The construction emissions associated with Scenario 6 and Scenario 12 are the result of construction worker and vendor trips as well as emissions from construction equipment. Construction worker and vendor trips for these two scenarios were calculated using CalEEMod, Version 2016.3.2 computer model based on data compiled by South Coast AQMD for ZE charger and for fueling infrastructure projects on developed sites. In general, limited construction emissions from site preparation activities, which may include earthmoving and/or grading, are anticipated because each affected warehouse facility, typically, has already been graded and paved. Air quality emissions were based on the year 2021 in order to capture the 'worst-case' emissions rates for the most intensive construction scenarios because this is the year projects would first start to be implemented following adoption of the WAIRE Program and year 2021 would represent the most conservative emissions rates for off-road construction equipment. Detailed CalEEMod output files are included in Appendix D of this EA. The results are shown in Table 4-4 for Scenario 6 and Table 4-5 for Scenario 12.

4.1.2.1 Potential Construction Impacts from Scenario 6: ZE Truck Charger Installation

Scenario 6 assumes that all warehouse operators selected the purchase and use of ZE trucks and ZE charger installations as the single, sole compliance option to meet their WPCO. This scenario considers installation of 'level 3' chargers in the first year a warehouse is subject to the proposed project followed by purchase of battery-electric Class 6 ZE trucks in the next year. In the following years, facilities would earn points by using the charging infrastructure and visits from acquired ZE fleet in the prior years. A limit of 25 purchases of Class 6 ZE trucks per facility is assumed in this scenario and after that facilities would purchase Class 8 ZE trucks to meet their WPCO requirement if needed. As identified previously, this scenario and all scenarios in the EA, result in a conservative estimate of impacts because it is highly unlikely that all operators would choose to fulfill their WPCO with a single compliance option, every compliance year, for 10 years. As a result, the emissions identified in the table provides a conservative estimate of the potential greatest possible increase in construction emissions associated with the proposed project. Based on information compiled by South Coast AQMD for similar charging infrastructure projects, installation of ZE truck charging infrastructure at a warehouse is assumed to have a construction duration of two days, an estimated ZE charging pad size of 5,000 square feet, and the following construction equipment: one industrial concrete saw, one backhoe, one skid steer loader with augur attachment (bore/drill), one crane, and one cement mixer. The emissions from installation of ZE chargers are shown in Table 4.1-3.

Table 4.1-3
Construction Emissions Associated with ZE Truck Charger Installations – Scenario 6

Activity	Scenario 6 Construction Emissions (lbs/day)					
	ROG	NOx	CO	SO_2	PM10	PM2.5
Construction Emissions Associated with One ZE Charger Installation						
Peak Day	1	14	10	<1	1	1
Worst-Case Year – 1,863 ZE Charger Installations in the South Coast AQMD Region						
Emissions Estimate[a]	13	140	107	<1	7	6
Significance Threshold	**100**	**75**	**550**	**150**	**150**	**55**
Exceeds Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2016.3.2.25
[a] To estimate emissions associated with overlapping project, annual emissions from CalEEMod are multiplied by the number of projects under this scenario and converted to daily emissions by dividing by 365.

4.1.2.2 Potential Construction Impacts from Scenario 12: Hydrogen Fueling Station Infrastructure

Scenario 12 assumes that all warehouse operators selected purchase and use of hydrogen fueling station infrastructure as the single, sole compliance option to meet their WPCO. In this scenario, one hydrogen fueling station with capacity of 700 kilograms per day is installed in the first year a warehouse is subjected to the rule followed by a purchase of a hydrogen fuel cell Class 8 ZE truck in the next year. Warehouse operator would make more truck purchases as required by their WPCO considering points earned from the usage of the fueling infrastructure and visits from Class 8 ZE trucks already acquired in prior years. As identified previously, this scenario and all scenarios in the EA, result in a conservative estimate of impacts because it is highly unlikely that all operators would choose to fulfill their WPCO through this single compliance option, every compliance year, for 10 years. As a result, the emissions identified in the table provides a very conservative estimate of the potential greatest possible increase in construction emissions associated with the proposed project. Based on information compiled for similar fuel station projects at existing gas stations, installation of a hydrogen fueling station at a warehouse is assumed to have an 'active' construction duration of 2.5 months, on a 0.3-acre site, and the following construction equipment: one backhoe, one crane, and concrete and delivery trucks. The emissions from installation of hydrogen fueling station at a warehouse are shown in Table 4.1-4.

Table 4.1-4
Construction Emissions Associated with Hydrogen Fueling Infrastructure Station – Scenario 12

Activity	Scenario 12 Construction Emissions (lbs/day)					
	ROG	NOx	CO	SO_2	PM10	PM2.5
Construction Emissions Associated with One Hydrogen Fueling Station Installation						
Peak Daily Emissions	1	7	4	<1	<1	<1
Worst-Case Year – 1,160 Hydrogen Fueling Installations in the South Coast AQMD Region						
Emissions Estimate[a]	90	1,061	648	2	52	43
Significance Threshold	**100**	**75**	**550**	**150**	**150**	**55**
Exceeds Threshold?	**No**	**Yes**	**Yes**	**No**	**No**	**No**

Source: CalEEMod Version 2016.3.2.2
[a] To estimate emissions associated with overlapping project, annual emissions from CalEEMod are multiplied by the number of projects under this scenario and converted to daily emissions by dividing by 365.

4.1.2.3 Construction Summary

Tables 4.1-3 and 4.1-4 represent the potential second highest and highest construction emissions scenarios, respectively, if all warehouse operators selected these options as the single, sole compliance option to meet their WPCO in a compliance year. Because this EA cannot predict how each of the operators will comply with the proposed project, it is not possible to forecast a particular, region-wide compliance approach for the initial 2,902 warehouses that would likely need to earn WAIRE Points in any given compliance year. Thus, the analysis in this EA has taken a conservative scenario approach to estimating the maximum potential impacts associated with the proposed project. The peak daily emissions in Table 4.1-4 represent the highest potential emissions that could occur with implementation of the proposed project. As identified in this table, construction activities associated with the proposed project have the potential to exceed South Coast AQMD significance thresholds for NOx and CO during the construction phase in the peak year.

4.1.2.4 Indirect Impacts Associated with Construction of New Manufacturing Facilities, Recycling Facilities, and Grid Improvements

Because the proposed project incentivizes the purchase and use of NZE and ZE vehicles, it could also indirectly result in the construction and operation of new manufacturing and recycling facilities, as well as infrastructure improvements to support NZE and ZE vehicles. These potential impacts were analyzed in CARB's Final EA for the ACT Regulation, and this EA incorporates that analysis by reference here. In summary, the ACT Final EA identifies that construction activities would result in an increase in emissions; however, such facilities would be required to seek local land use approvals prior to their implementation. Part of the land use entitlement process requires that each of these projects undergo environmental review consistent with California environmental review requirements (e.g., CEQA) and other applicable local requirements (e.g., local air district rules and regulations), and that the land use authority impose feasible mitigation. Nonetheless, because CARB does not have land use approval authority, it could not guarantee that any mitigation measures will be imposed, and therefore CARB concluded these indirect construction-related effects are significant.

Similarly, the 2016 AQMP EIR also analyzed the potential construction and operational air quality impacts of that program, which included Control Measure MOB-03, an indirect source rule for warehouses. In particular, the EIR noted that MOB-03, together with other measures, could "have the potential to generate construction emission impacts from constructing infrastructure to provide support for new cleaner equipment or vehicles." This EA incorporates this analysis by reference, including the listed mitigation measures, as a supplement to the analysis provided above.

4.1.3 Air Quality Impacts During Operation (Significance Criteria b and c)

As discussed in the introduction to Chapter 4, the IEc Study concluded the proposed project, at a rule stringency of 0.0025, would not cause new warehouses would be located outside South Coast AQMD's jurisdiction. However, in order to provide a conservative analysis of potential environmental impacts, this assessment assumes that up to three new warehouses may choose to locate outside the South Coast AQMD's jurisdiction, rather than within it, to avoid having to comply with the proposed project. Additionally, it is not reasonably foreseeable that cargo shippers would divert cargo to other ports to avoid the increased cost of compliance with the proposed project, because of the uncertainty of the market response and the EA assumes some shipping diversion, which is discussed qualitatively. Under this conservative assumption, the proposed project could result in an increase in air quality emissions as a result of additional truck VMT from facility relocations as well as from the methods used to earn WAIRE Point used for the warehouse operators WPCO. Similarly, as discussed above, this EA assumes that there may be some cargo owners who decide to ship their cargo to a different port to avoid the cost of compliance. Again, this is a conservative assumption, as it is an unlikely market response. These additional 'operational' impacts are analyzed below, under "Potential Operational Impacts from Facility Relocations and Cargo Growth Diversion."

At the same time, under several compliance options, the proposed project would result in greater turnover of diesel trucks to NZE and ZE trucks (Scenarios 1 through 6, 8 through 10, and 13 and 14). NZE and ZE trucks have lower NOx and PM emissions than diesel trucks. Thus, the proposed project also has the potential to shift the type of energy sources utilized for the transportation sector in the South Coast AQMD region, and result in a reduction in NOx and PM emissions. Currently, the goods movement sector relies on diesel fuel as the primary energy source for trucks. By providing a mechanism for warehouse operators that would incentivize early transition to NZE and ZE technology as a means to comply with the WPCO, the proposed project is expected to result in a decrease in air pollutant and GHG emissions in the South Coast AQMD region for several of the compliance option scenarios. These air quality benefits are discussed below, under "Range of Criteria Air Pollutant Benefits from the Proposed Project."

The analysis in this EA provides 'book-ends' of the range of potential environmental consequences associated with the proposed project to provide a framework for understanding the greatest potential impacts in each topic area. The analysis in this EA has taken the scenario approach outlined above in order to provide a conservative analysis of potential greatest impacts of the proposed project.

4.1.3.1 Potential Operational Impacts from Warehouse Relocations and Cargo Growth Diversion

Based on the currently proposed rule stringency of 0.0025, the proposed project would not result in warehouse relocations out of South Coast AQMD's jurisdiction. Under the highest rule

stringency considered that would result in $2.00 per square foot of additional cost to warehouse operators, the proposed project would result in a maximum of six warehouse relocations (see Chapter 5, Alternatives). This EA conservatively considers the potential for up to three warehouse relocations from the proposed project even though no such relocations are expected based on the IEc Study in order to provide a conservative analysis of the operational air quality and GHG emissions, energy, and transportation impacts. Table 4.1-5 shows the potential increase in criteria air pollutant emissions associated with an increase in truck VMT for up to three potential warehouse relocations that are assumed for the purpose of this EA. As identified in this Table, the increase in emissions from up to three relocations would exceed the South Coast AQMD threshold for NOx and would be potentially significant in the absence of potential emissions reductions from the proposed project. However, the proposed project would result in regional emissions benefits that needed to be weighed with the potential impacts.

Table 4.1-5
Criteria Air Pollutant Emissions from Worst Case Up to Three Warehouse Relocations

Activity	Worst Case Up to Three Warehouse Relocations (lbs/day)	
	NOx	PM10
Total	62.3	0.5
Significance Threshold	55	55
Exceeds Threshold?	**Yes**	**No**

Notes: For potential warehouse relocations in the IEc Study, it is assumed to be Pathway 15 for national distribution. So, there would be very minimal Class 2b-7 truck trips as they are typically used for last mile type trips.

Although it is not reasonably foreseeable that cargo shippers would divert cargo to other ports to avoid the increased cost of compliance with the proposed project, because of the uncertainty of the market response, the EA assumes some shipping diversion. However, it is not possible to determine the amount of cargo diverted, where the cargo would be diverted to, or the existing air quality at the alternative port. As a result, it would be speculative to attempt to quantify such impacts.

Considered qualitatively, any impacts of such cargo diversion would likely be de minimis. This is because the amount of diverted cargo would likely be small—much smaller than the 1.4 percent estimated in the Port Study, for the reasons discussed above. Moreover, this small amount of cargo would likely be carried on ships that are already headed to other ports, and would not result in additional shipping trips. As a result, any air quality impacts would be limited to increased emissions resulting from the small increase in weight. These impacts would thus likely be de minimis.

Moreover, the severity of a project's air quality impacts is typically judged by whether the project would cause an exceedance of local air quality standards. Given that the South Coast AQMD has some of the poorest air quality in the nation, it is likely that the minimal emissions associated with diverted cargo would be less impactful at other ports than at the Ports of Los Angeles and Long Beach.

For all of these reasons, any operational air quality impacts associated with potential cargo diversion would be less than significant.

4.1.3.2 Range of Criteria Air Pollutant Benefits from the Proposed Project

The WAIRE Program is designed to have significant air quality benefits, especially for the communities located near warehouses in South Coast AQMD's jurisdiction. In general, the WAIRE Program achieves these benefits by requiring warehouse operators to implement air quality improvement measures. Operators can comply with WAIRE Program requirements in a number of ways, including by using NZE or ZE trucks in place of higher-polluting diesel trucks; building infrastructure to support expanded use of ZE trucks; increasing use of solar energy; and installing new filtration systems for sensitive receptors that are currently exposed to poor air quality.

Since it is speculative to determine how individual warehouse operators will choose to comply with the proposed project, it is not possible to quantify the exact emissions benefits that will result from the proposed project. Instead, this EA considers the range of emissions benefits that would result from each of the compliance options modeled as Scenarios 1 through 18 as a way to identify the environmental consequences of the WAIRE Points isolated for each individual compliance option. Table 4.1-6 shows the potential range of emissions reductions as a result of implementation of the proposed project under each of the different WAIRE Points scenarios modeled at compliance year 10 (year 2031) (see also Section 4.0.1.2, WAIRE Points Scenario Modeling for a description of how benefits were modeled). It should be noted that NZE trucks have lower emissions than the diesel fueled trucks they would replace. Once again, the WAIRE Point scenarios listed below assume that all warehouse operators selected that compliance option as the single, sole compliance option to meet their WPCO.

In Table 4.1-6, only Scenarios 15 (high efficiency filtration systems) and 16 (filter purchases) would not result in NOx emissions reductions because they are aimed at providing exposure reduction benefits in disadvantage communities proximate to warehouses. It is unlikely that all warehouse operators would select installation of high efficiency filtration systems and filter purchases as the primary means of fulfilling their WPCO since installation of filtration systems in private properties is the second most expensive compliance option and is harder to implement since this option has the higher long-term costs for private properties owners, which would make it less likely to occur. Given that all other scenarios would result in substantial NOx reductions and given the proposed project would include tracking and monitoring to ensure that the NOx emissions reductions benefits from the WPCO Points are realized over time; this EA assumes that the emissions benefits from the proposed project (as shown in Table 4.1-6) far outweigh any potential increase from up to three warehouse relocations. Therefore, no long-term air quality impacts would occur.

Table 4.1-6
Potential Emissions Reductions in the South Coast AQMD Region from the Proposed Project in Year 2031 (Compliance Year 10)

WAIRE Points Scenario Modeled		NOx Emissions Reduction (lbs/day)	PM10 Emissions Reduction (lbs/day)
Scenario 1	NZE Class 8 Truck Acquisitions and Visits (No Incentives)	5,995	48
Scenario 2	NZE Class 8 Truck Acquisitions with Early Purchase (of one truck more than the required by WPCO) and Visits	5,854	47
Scenario 3	NZE Class 8 Truck Acquisitions Funded by Carl Moyer and Visits	6,802	47
Scenario 4	NZE Class 8 Truck Visits (Use from Non-Owned Fleet)	4,815	39
Scenario 5	ZE Class 8 Truck Visits (Use from Non-Owned Fleet)	7,059	49
Scenario 6	Level 3 Charger Installations in the First Year and ZE Class 6 and 8 Truck Acquisitions.	3,554	18
Scenario 7	Pay Mitigation Fee	43,528	18
Scenario 8	NZE Class 6 Truck Acquisitions and Visits (No Incentives)	6,906	42
Scenario 9	NZE Class 6 Truck Visits (Use from Non-Owned Fleet)	7,032	42
Scenario 10	ZE Class 6 Truck Visits (Use from Non-Owned Fleet)	8,362	45
Scenario 11	Rooftop Solar Panel Installations and Usage	40,618	0
Scenario 12	Hydrogen Fueling Station Installations in the First Year and ZE Class 8 Truck Acquisitions and Visits (No Incentives)	5,695	40
Scenario 13	ZE Class 2b-3 Truck Acquisitions and Visits (No Incentives)	1,758	37
Scenario 14	ZE Class 2b-3 Truck Visits (Use from Non-Owned Fleet)	1,778	38
Scenario 15	MERV-16 or Greater Filter and Filtration System Installations	0	0
Scenario 16	MERV-16 or Greater Filter and Filtration System Purchases	0	0
Scenario 17	TRU Plug Installations and Usage in Cold Storage Facilities	130	0
Scenario 18	ZE Cargo Handling Equipment Acquisitions and Usage	200	7
Max. Potential Emissions Reduction		**43,528**	**49**
Min. Potential Emissions Reduction		**0**	**0**

4.1.3.3 Transition to NZE and ZE Trucks (Scenarios 1-6, 8-10, 12-14)

The proposed project would allow for purchase of new NZE and ZE trucks as a way for warehouse operators to meet their WPCO. Because NZE and ZE trucks have lower NOx and PM10 emissions than diesel trucks, the proposed project would likely result in significant emissions reductions. Table 4.1-6 shows the potential criteria air pollutant emissions reductions benefits associated with the modeled WAIRE Points scenarios (see Scenarios 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 13, and 14). It is anticipated that when warehouse operators replace trucks with NZE and ZE trucks some of the older trucks will be retired (i.e., scrapped) and some of these trucks would be transitioned to other uses or warehouses outside of South Coast AQMD's jurisdiction for trucks that are no longer eligible to access the San Pedro Bay Ports. However, even in this instance where the trucks are transitioned to other uses, it can be presumed that they would replace even older, higher emissions trucks in an operator's truck fleet. This assumption is based on the fact that the proposed project does not generate an increase in the national or even international demand for trucks used in the goods movement sector. Thus, operators that purchase the trucks replaced by NZE and ZE trucks pursuant to the proposed project would be replacing an existing truck that has aged out of or is nearing the end its useful life. These assumptions support the conclusion that the proposed project would result in a greater turnover of diesel trucks to NZE and ZE trucks than would have occurred without implementation of the proposed project, and that there would be an emissions benefit from the proposed project due to its incentives for replacing older trucks with newer ones. Regardless of whether or not trucks are retired or transferred, there would be a reduction in emissions from replacement of an older truck. These potential reductions as a direct result of the proposed project are captured in the scenario modeling shown in Table 4.1-6.

4.1.3.4 Efficiency of Goods Movement in Southern California

Because warehouse operators may earn WAIRE Points and comply with the WAIRE Program in many different ways, its effect on goods movement in Southern California is speculative. On the one hand, the WAIRE Program could decrease the overall VMT efficiency of goods movement in the South Coast AQMD region by creating WAIRE Points incentives to re-route NZE and ZE trucks to warehouses in the South Coast AQMD. For example, operators with multiple warehouses in the South Coast AQMD may choose to satisfy the WPCO through acquiring NZE and ZE trucks and rerouting so that the usage points are accumulated at multiple warehouses, since each operator must report annual truck trips that serve the warehouse. Similarly, warehouse operators may contract with trucking companies that already own NZE and ZE trucks to route those trucks to warehouses in the South Coast AQMD. Purchasers of the trucks would be replacing an existing truck that has aged out of or is nearing the end of its useful life. In either situation, the re-routing could lead to greater overall VMT to accomplish the same level of goods movement.

On the other hand, the WAIRE Program could increase the efficiency of goods movement. If it is assumed current travel patterns are optimized for efficiency, warehouse operators would be incentivized to reduce the number of truck visits at their facilities each year since that is a metric used to determine the WPCO for a warehouse. Under the WAIRE Program, the number of annual truck trips for applicable warehouses must be reported to be converted into each operator's WPCO; the fewer truck trips generated by a facility, the lower that facility's WPCO will be. Because the WPCO is based on the annual truck trips that are reported to South Coast AQMD, there is an incentive to increase efficiency of truck movements to reduce the number of truck trips generated at an operator's facility. Reducing diesel truck trip movements would be a beneficial effect of the WAIRE Program as it may reduce air pollutant emissions from fewer trips generated beyond those

identified in Table 4.1-6. It is important to note that the South Coast AQMD staff intends to conduct ongoing monitoring, review, and reporting on the performance of the WAIRE Program. These ˈcheck-insˈ will provide useful information on implementation details and help identify effects of the WAIRE Program on warehouses in the region.

Given this uncertainty, the EA cannot determine the effect of the proposed project on the efficiency of goods movement in Southern California. Pursuant to the CEQA Guidelines Section 15145, "If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact."

4.1.3.5 Air Quality Impacts During Overlap of Construction and Operation

Given the number of warehouse facilities that will be subject to the proposed project and the varying modifications expected to occur at each affected facility in order to comply with the proposed project, construction impacts associated with some WAIRE compliance options at warehouses could potentially overlap with operational impacts associated with facility relocation. According to South Coast AQMDˈs policy for analyzing a projectˈs air quality impacts in CEQA documents, in the event that there is an overlap of construction and operation periods, the peak daily emissions from the construction and operation overlap period should be summed and compared to the South Coast AQMDˈs air quality significance thresholds for operation , which is more stringent, and thus, more conservative that using the construction thresholds.

The construction impacts are specific to the compliance options Scenario 6 (ZE truck charger installation) and Scenario 12 (hydrogen fueling station infrastructure installation). The overlap of emissions for these two compliance options Scenarios are provided in Table 4.1-7 for the ˈworst-caseˈ year and at compliance year 10 of proposed project implementation. The construction emissions for the worst-case year are identified above, that is compliance year 1 (year 2022) for Scenario 6 and compliance year 3 (year 2024) for Scenario 12. NOx and PM10 emissions from Scenario 6 and Scenario 12 are added to the additional emissions that would occur as a result of up to three warehouse relocations assumed in this EA for disclosing and understanding the greatest potential relocation impacts even though no such relocations are expected to occur. As such, total emissions from both scenarios of overlapping construction and operational activities have been compared to the South Coast AQMDˈs air quality significance thresholds for operation in Table 4.1-7.

Table 4.1-7
Peak Daily Overlapping Construction and Operational Emissions

Scenario / Activity	Overlapping Construction and Operational Emissions (lbs/day) – Worst Case Year		Overlapping Construction and Operational Emissions (lbs/day) – Year 2031	
	NOx	PM10	NOx	PM10
Scenario 6				
Construction Scenario 6	140	7	15	1
Benefits Scenario 6	0	0	-3,554	-18
Worst Case Relocations	74	0.6	74	0.6
Total Scenario 6	**214**	**7.6**	**-3,465**	**-16.4**
Significance Threshold	55	55	55	55
Exceed Threshold?	**Yes**	**No**	**No**	**No**
Scenario 12				
Construction Scenario 12	1,061	52	49	2
Benefits Scenario 12	-702	-5.1	-5,695	-40
Worst Case Relocations	74	0.6	74	0.6
Total Scenario 12	**433**	**47.5**	**-5,572**	**-37.4**
Significance Threshold	55	55	55	55
Exceeds Threshold?	**Yes**	**No**	**No**	**No**

Notes: 'Worst-case' year is compliance year 1 (year 2022) for Scenario 6 and compliance year 3 (year 2024) for Scenario 12.

As indicated in Table 4.1-7, the peak daily emissions during the construction and operational overlap period would exceed the South Coast AQMD's air quality significance thresholds for NOx for operation in the worst-case year for Scenario 6 (i.e., year 2021) and for NOx for operation in the worst-case year for Scenario 12 (i.e., year 2024). Therefore, the air quality impacts during the construction and operation overlap period are considered to be significant. By year 2031 the initial upfront emissions from installation would be offset by the potential emissions benefits from Scenario 6 and Scenario 12. However, because emissions modeling considers the worst-case scenario in the year where there are higher construction emissions than emissions benefits, the proposed project would temporarily result in significant adverse air quality impacts for NOx during the 'worst-case' construction and operation overlap period under the most conservative scenario where all warehouse operators would select Scenario 6 or Scenario 12 as the sole compliance option to meet their WPCO.

4.1.4 Greenhouse Gas Emissions Impacts (Significance Criteria f)

The analysis of GHGs is a different analysis than the analysis of criteria pollutants. For criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one-hour and eight-hour standards). Since the half-life of CO_2 is approximately 100 years, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long-time frame. As a result, the South Coast AQMD's current policy is to evaluate the effects of GHGs over a longer timeframe than a single day (i.e., annual

emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects. Annual GHG emission impacts from implementing the proposed project were calculated by considering first the 'construction' GHG impacts— i.e., GHG emissions associated with construction activities that may occur as warehouse operators comply with the proposed project—and 'operational' GHG impacts—i.e., GHG emissions associated with potential warehouse relocations and cargo growth diversion resulting from the proposed project implementation, increased electricity consumption, and GHG emissions benefits from purchase and use of NZE and ZE vehicles.

4.1.4.1 GHGs Emissions from Construction Activities

As discussed above, WAIRE Points Scenarios 6 (ZE charger installation) and Scenario 12 (hydrogen fueling station infrastructure installation) represent the highest potential construction emissions scenarios associated with the proposed project and are used to conservatively estimate the maximum potential 'worst-case' construction GHG emissions associated with the proposed project (see "Air Quality Impacts During Construction"). Again, the WAIRE Point scenarios assume that all warehouse operators selected that compliance option as the single, sole compliance option to meet their WPCO. As a result, the highest emissions scenario represents the worst-case potential construction GHG emissions associated with the proposed project. For Scenario 6 and Scenario 12, construction emissions over the 10 compliance years (year 2021 through year 2031) of proposed project implementation were amortized over a 30-year project life in accordance with the guidance provided in the *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* [7] that was adopted by the South Coast AQMD Governing Board in December 2008, and included in the operational analysis to reflect one-time emissions from these short-term construction activities.[8] As identified previously, WAIRE Points scenarios modeled solar installation, filtration system installation, and plugs at warehouse docking bays for electric TRUs would not use substantial off-road construction equipment, and thus any GHG emissions from those compliance options would be less than the GHG emissions from Scenario 6 and Scenario 12.

4.1.4.1.1 Potential Construction Impacts from ZE Truck Charger Installation (Scenario 6)

Scenario 6 assumes that all warehouse operators selected purchase and use of ZE trucks and ZE charger installations as the single, sole compliance option to meet their WPCO. As identified previously, this scenario and all scenarios in the EA, result in a conservative estimate of impacts because it is highly unlikely that all operators would choose to fulfill their WPCO through this compliance option. As a result, the emissions identified in the table provides a conservative estimate of the potential greatest possible increase in construction emissions associated with the proposed project. Based on information compiled by South Coast AQMD for similar charging infrastructure projects, installation of ZE truck charging infrastructure at a warehouse is assumed to have a construction duration of two days, an estimated ZE charging pad size of 5,000 square feet, and the following construction equipment: one industrial concrete saw, one backhoe, one skid steer loader with augur attachment (bore/drill), one crane, and one cement mixer. The annual

[7] Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf

[8] South Coast AQMD. 2008, December 5. Interim CEQA GHG Significance Threshold for Stationary

Sources, Rules and Plans. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds

emissions associated over 10 compliance years from installation of ZE chargers and amortized over a 30-year project lifetime are shown in Table 4.1-8.

Table 4.1-8
Maximum Potential GHG Emissions Associated with ZE Truck Charger Installations – Scenario 6

Activity	Scenario 6 ZE Truck Charger Installations	
	Number of Chargers	$MTCO_2eq$/Year
Year 2022	1,863	4,371
Year 2023	1,045	2,452
Year 2024	1,254	2,942
Year 2025	169	396
Year 2026	195	457
Year 2027	195	457
Year 2028	195	457
Year 2029	195	457
Year 2030	195	457
Year 2031	195	457
Total	**5,501**	**12,905**
30-Year Amortization	**NA**	**430**

Source: CalEEMod Version 2016.3.2

4.1.4.1.2 Potential Construction Impacts from Hydrogen Fueling Infrastructure (Scenario 12)

Scenario 12 assumes that all warehouse operators selected the purchase and use of hydrogen fueling infrastructure as the single, sole compliance option to meet their WPCO. As identified previously, this scenario and all scenarios in the EA, result in a conservative estimate of impacts because it is highly unlikely that all operators would choose to fulfill their WPCO through this compliance option. As a result, the emissions identified in the table provides a very conservative estimate of the potential greatest possible increase in construction emissions associated with the proposed project. Based on information compiled for similar fuel station projects at existing gas stations, installation of a hydrogen fueling station at a warehouse is assumed to have an 'active' construction duration of 2.5 months, on a 0.3-acre site, and the following construction equipment: one backhoe, one crane, and concrete and delivery trucks. The annual GHG emissions from installation of hydrogen fueling stations and amortized over a 30-year project lifetime are shown in Table 4.1-9.

Table 4.1-9
GHG Emissions Associated with Hydrogen Fueling Infrastructure Installations – Scenario 12

Activity	Scenario 12 Hydrogen Fueling Station Installations	
	Number of Stations	$MTCO_2eq$/Year
Year 2022	955	20,588
Year 2023	1,003	21,622
Year 2024	1,160	25,007
Year 2025	54	1,164
Year 2026	54	1,164
Year 2027	54	1,164
Year 2028	54	1,164
Year 2029	54	1,164
Year 2030	54	1,164
Year 2031	54	1,164
Total	**3,442**	**75,365**
30-Year Amortization	**NA**	**2,512**

Source: CalEEMod Version 2016.3.25

4.1.4.2 Potential GHGs Emissions from Operations (Warehouse Relocations and Cargo Growth Diversion)

Based on the currently proposed rule stringency, the proposed project would not result in warehouse relocations out of South Coast AQMD's jurisdiction. Under the highest rule stringency considered that would result in $2.00 per square foot of additional cost to warehouses, the proposed project would result in a maximum of six warehouse relocations (see Chapter 5, Alternatives). This EA nonetheless considers the potential for up to three warehouse relocations from the proposed project even though no such relocations are expected based on the IEc Study in order to provide a conservative analysis for the operational impacts.. Table 4.1-10 shows the maximum potential increase in GHG emissions associated with an increase in truck VMT from up to three potential warehouse relocations assumed in this EA even though no such relocations are expected to occur.

Table 4.1-10
GHG Emissions from Worst Case Up to Three Warehouse Relocations

Activity	Worst Case Up to Three Warehouse Relocations
	$MTCO_2eq$
Truck VMT Emissions	5,902
Significance Threshold	10,000
Exceed Significance?	**No**

Although it is not reasonably foreseeable that cargo shippers would divert to other ports to avoid the increased cost of compliance with the proposed project, because of the uncertainty of the market response, the EA assumes some shipping diversion. However, it is not possible to determine the amount of cargo diverted, where the cargo would be diverted to, or the existing air

quality at the alternative port. As a result, it would be speculative to attempt to quantify such impacts.

Considered qualitatively, any impacts of such cargo diversion would likely be de minimis. This is because the amount of diverted cargo would likely be small—much smaller than the 1.4 percent estimated in the Port Study, for the reasons discussed above. Moreover, this small amount of cargo would likely be carried on ships that are already headed to other ports, and would not result in additional shipping trips. As a result, any impacts would be limited to increased GHG emissions resulting from the small increase in weight. Because the cumulative area of impact for GHG emissions is global emissions, this EA considers emissions utside of the South Coast AQMD's jurisdiction from the increase in weight.

4.1.4.3 Potential GHGs Emissions from Operations (Increased Electricity)

Implementation of the proposed project would result in an increase in electricity demand, as many of the compliance options would support or involve a transition from diesel fuel vehicles to electric vehicles. The WAIRE Points scenarios with the greatest GHG emissions associated with this transition are:

- **ZE Truck Charger Installation and ZE Truck Use (Scenario 6).** Electric trucks operate via battery power instead of fuels. As a result, transition of diesel trucks to electric trucks would result in an increase in electricity demand.
- **Installation of High Efficiency Filter Systems (Scenario 15)** High-efficiency HVAC systems with MERV-16 filters and filtration systems take more electricity to operate than standard HVAC systems. The increased energy demand from high efficiency HVAC systems is considered under this scenario.
- **ZE Cargo Handling Equipment Purchase and Use (Scenario 18).** ZE cargo handling equipment would operate on electricity rather than diesel fuel. As a result, use of this ZE cargo handling equipment in lieu of diesel cargo handling equipment would result in an increase in electricity demand.
- **TRUs Plug Installation and Usage in Cold Storage Facilities (Scenario 17)**. Electric TRUs would utilize electricity rather than diesel fuel for their auxiliary engine while docked at the warehouse. However, WAIRE Points scenario modeling for this scenario did not show an increase over existing regulations; and therefore, no additional energy use is assumed with this scenario.
- **Solar Panel Installation (Scenario 11).** Operation of rooftop solar panels would offset the existing warehouse's electricity demand. As a result, the proposed project would result in a GHG emissions benefit with this WAIRE Points compliance obligation.

The electricity from use/generation from implementation of the proposed project Scenarios 6, 15, 18, and 11 is multiplied by the carbon intensity for the Southern California Edison (SCE) utility since SCE represents the vast majority (75 percent) of the service area[9] based on the carbon intensity from SCE's latest Sustainability Report.[10] The carbon intensity is adjusted to reflect a

[9] Other electricity service providers include, the City of Industry (6 percent of service area), City of Vernon (3 percent), City of Anaheim (2 percent), and Moreno Valley (1 percent).

[10] Southern California Edison. 2020. 2019 Sustainability Report. https://www.edison.com/content/dam/eix/documents/sustainability/eix-2019-sustainability-report.pdf

reduction in carbon intensity as a result of implementation of Senate Bill 100, which established a renewable portfolio standard (RPS) target of 60 percent renewables. As identified previously, this scenario and all scenarios in the EA, result in a conservative estimate of impacts because it is highly unlikely that all operators would choose to fulfill their WPCO through this single compliance option. As a result, the GHG emissions identified in the table provides a conservative estimate of the maximum potential increase in GHG emissions use (Scenario 6, 15, and 18) and GHG benefits (Scenario 11) associated with the proposed project at compliance year 10 (year 2031).

4.1.4.3.1 Increased Electricity Consumption from ZE Truck Charger Installation and ZE Truck Use (Scenario 6)

ZE trucks would generate an increase in demand for electricity. This EA identifies the maximum potential anticipated increase in electricity use from ZE trucks purchased and used as a result of the proposed project. Scenario 6 assumes all warehouse operators selected the purchase and use of ZE trucks as the single, sole compliance option to meet their WPCO. Table 4.1-11 show the maximum potential increase in GHG emissions from electricity from the proposed project at compliance year 10 (year 2031).

Table 4.1-11
Maximum Potential Increase in Electricity and GHG Emissions from Electric Truck Use in the South Coast AQMD Region – Scenario 6

Scenario	Purchase and Use of Electric Trucks		
	Electric Trucks at Year 2031	GWH Year 2031	$MTCO_2eq$[a] Year 2031
Scenario 6	28,569	847	126,352

Notes: MWH: Megawatt Hours
[a] Based on the Carbon Intensity for SCE identified in the 2019 Sustainability Report and adjusted to reflect Senate Bill 100 (i.e., 329 lbs/MWH).

4.1.4.3.2 Increase in Electricity Consumption from Installation of High-Efficiency Filter Systems (Scenario 15)

Implementation of the proposed project could increase energy demand and associated GHG emissions under Scenario 15, which assumes that all warehouses operators would install high-efficiency filter systems or replace filters in residences, schools, daycares, hospitals, or community centers proximate to the warehouse location as the single, sole compliance option to meet their WPCO. This is because high efficiency air filtration systems take slightly more electricity to operate that traditional heating, ventilation, and air conditioning (HVAC) systems. As identified in Table 4.1-12, installation of high efficiency HVAC systems with MERV-16 filters would result in 2,870,569 systems installed by year 2031 resulting in an increase of 746 GWH by year 2031 (compliance year 10).

Table 4.1-12
Maximum Potential Increase in Electricity and GHG Emissions from High Efficiency Filtration Systems Installed in the South Coast AQMD Region – Scenario 15

Scenario	High Efficiency Filter Systems Installed by Year 2031	Increase in GWH Year 2031[a]	$MTCO_2eq$[b] Year 2031
Scenario 15	2,870,569	746	111,379

Notes: GWH: Gigawatt Hours
[a] Based on an energy consumption of 260 kWh/yr per system.[11]
[b] Based on the Carbon Intensity for SCE identified in the 2019 Sustainability Report and adjusted to reflect Senate Bill 100 (i.e., 329 lbs/MWH).

4.1.4.3.3 Increase in Electricity Consumption from Purchase and Use of ZE Cargo Handling Equipment (Scenario 18)

Scenario 18 assumes all warehouse operators selected purchase and use of ZE cargo handling equipment as the single, sole compliance option to meet their WPCO. Use of ZE cargo handling equipment would replace diesel cargo handling equipment and result in both localized and regional air quality emissions benefits. However, ZE cargo handling equipment would result in an increased demand for electricity and associated GHG emissions. Table 4.1-13 shows the total increase in electricity use and GHG emissions at compliance year 10 (year 2031) associated with Scenario 18.

Table 4.1-13
Maximum Potential Increase in Electricity and GHG Emissions from ZE Cargo Handling Equipment Purchase and Use in the South Coast AQMD Region – Scenario 18

Scenario	ZE Cargo Handling Equipment Purchased through 2031	GWH[a] Year 2031	$MTCO_2eq$[b] Year 2031
Scenario 18	4,864	149	22,255

Notes: GWH: Gigawatt hours
[a] Based on 365 days of operation per year and each cargo handling equipment (i.e., yard truck) would consume 84 kWh/day.[12]
[b] Based on the Carbon Intensity for SCE identified in the 2019 Sustainability Report and adjusted to reflect Senate Bill 100 (i.e., 329 lbs/MWH).

4.1.4.3.4 Potential GHG Benefits from Purchase and Use of Solar Panels (Scenario 11)

Scenario 11 assumes all warehouse operators selected installation of solar panels as the single, sole compliance option to meet their WPCO as a result of the proposed project. Under Scenario 11 the proposed project could offset electricity demand through installation of solar panels, which would reduce the need for additional energy resources from local utilities and offset the potential increase in electricity demand and GHG emissions from other compliance options, as shown in Table 4.1-14.

[11] Peters, Christine. IQ Air. 2019, October 11. Personal Communication "School Filtration Costs – Installation, Maintenance" .

[12] Orange EV. 2018, April 17. Making Electrification Work: How to Successfully Deploy HDEVs A Yard Truck Case Study. https://www.gtsummitexpo.socialenterprises.net/program/2018presentations/MikeSaxton.pdf Accessed December 2020.

Table 4.1-14
Maximum Potential Electricity and GHG Offset from Solar Panel Installation in the South Coast AQMD Region – Scenario 11

Scenario	GWH/Year Generated Year 2031	$MTCO_2eq$[a] Year 2031
Scenario 11	11,044	1,648,061

Notes: GWH: Gigawatt Hours
[a] Based on the Carbon Intensity for SCE identified in the 2019 Sustainability Report and adjusted to reflect Senate Bill 100 (i.e., 329 lbs/MWH).

4.1.4.4 Scenario Modeling GHG Emissions Reduction Benefits

The proposed project is designed to have substantial long-term air quality benefits, which result in GHG emissions co-benefits. In general, the proposed project achieves these benefits by requiring warehouse operators to implement air quality improvement measures. Operators can comply with the WAIRE Program in a number of ways, including by using NZE or ZE trucks in place of higher-polluting diesel trucks; building infrastructure to support expanded use of ZE trucks; increasing use of solar energy; and installing new filtration systems for sensitive receptors that are currently exposed to poor air quality.

Since it is speculative to determine how individual warehouse operators will choose to comply with the proposed project, it is not possible to quantify the exact GHG emissions benefits that will result from the proposed project. Instead, this EA considers the range of GHG emissions benefits from each of the compliance options modeled as Scenarios 1 through 18 as a way to identify the environmental benefits on GHG emissions of the WAIRE Points isolated for each individual compliance option. Table 4.1-15 shows the potential range of GHG emissions reductions as a result of implementation of the proposed project under the different WAIRE Points Scenarios modeled at year 10 (year 2031). NZE trucks have a lower carbon intensity than diesel trucks they would replace (i.e., GHG emissions per mile traveled are lower). The WAIRE Point scenarios assume all warehouse operators selected that compliance option as the single, sole compliance option to meet their WPCO.

Table 4.1-15
Potential GHG Emissions Reductions from the Proposed Project

WAIRE Points Scenario		$MTCO_2eq$
Scenario 1	NZE Class 8 Truck Acquisitions and Visits (No Incentives)	0
Scenario 2	NZE Class 8 Truck Acquisitions with Early Purchase (of one truck more than the required by WPCO) and Visits	0
Scenario 3	NZE Class 8 Truck Acquisitions Funded by Carl Moyer and Visits	0
Scenario 4	NZE Class 8 Truck Visits (Use from Non-Owned Fleet)	0
Scenario 5	ZE Class 8 Truck Visits (Use from Non-Owned Fleet)	0
Scenario 6	Level 3 Charger Installations in the First Year and ZE Class 6 and 8 Truck Acquisitions.	550,116
Scenario 7	Pay Mitigation Fee	0
Scenario 8	NZE Class 6 Truck Acquisitions and Visits (No Incentives)	0
Scenario 9	NZE Class 6 Truck Visits (Use from Non-Owned Fleet)	0
Scenario 10	ZE Class 6 Truck Visits (Use from Non-Owned Fleet)	0
Scenario 11	Rooftop Solar Panel Installations and Usage	2,234,150
Scenario 12	Hydrogen Fueling Station Installations in the First Year and ZE Class 8 Truck Acquisitions and Visits (No Incentives)	512,184
Scenario 13	ZE Class 2b-3 Truck Acquisitions and Visits (No Incentives)	579,473
Scenario 14	ZE Class 2b-3 Truck Visits (Use from Non-Owned Fleet)	585,605
Scenario 15	MERV-16 or Greater Filter and Filtration System Installations	0
Scenario 16	MERV-16 or Greater Filter and Filtration System Purchases	0
Scenario 17[a]	TRU Plug Installations and Usage in Cold Storage Facilities	0
Scenario 18[a]	ZE Cargo Handling Equipment Acquisitions and Usage	169,723
Max. Potential Reduction		**2,234,150**
Min. Potential Reduction		**0**

Notes:
[a] Scenario 17 and 18 only CO_2 emissions benefits calculated. .

4.1.4.5 Indirect Impacts Associated with Construction of New Manufacturing Facilities, Recycling Facilities, and Grid Improvements

Because the proposed project encourages and incentivizes the purchase and use of NZE and ZE vehicles, it could also indirectly result in the construction and operation of new manufacturing and recycling facilities, as well as infrastructure improvements to support NZE and ZE vehicles. These potential impacts were analyzed in CARB's Final EA for the ACT Regulations, and this EA

incorporates that analysis by reference here. In summary, the ACT Final EA identifies that construction activities would result in an increase in emissions; however, such facilities would be required to seek local land use approvals prior to their implementation. Part of the land use entitlement process requires that each of these projects undergo environmental review consistent with California environmental review requirements (e.g., CEQA) and other applicable local requirements (e.g., local air district rules and regulations). Additionally, this temporary increase in emissions of GHGs is meant to, in the long-term, allow for a transition to vehicles that reduce overall emissions of GHGs. Therefore, when these short-term construction-related GHG emissions associated with construction activities under the proposed project are considered in relation to the overall long-term operational GHG emissions benefits associated with the WAIRE Point scenarios for NZE and ZE trucks discussed below, they are not considered substantial.

4.1.4.6 Summary of GHG Impacts (Construction and Operation)

Table 4.1-16 shows a summary of the GHG emissions impacts for the scenarios analyzed. These scenarios were selected based on the greatest potential to result in GHG emissions impacts in order to show the range of potential environmental consequences associated with the proposed project to provide a framework for understanding the greatest potential impacts on GHG emissions. The analysis in this EA has taken the scenario approach outlined above in order to provide a conservative analysis of potential impacts of the proposed project.

Table 4.1-16
Summary of GHG Emissions from the Proposed Project

Activity	Compliance Year 2031 CO_2eq (MT/year[a])
Scenario 6 – ZE Charger Installation and Electric Trucks	
ZE Charger Installation Amortized Over 30 Years	430
GHG Emissions Reduction Benefits from Scenario 6	-550,116
Worst Case (Up to Three) Relocation Impacts	5,902
Electricity from ZE Trucks (847 GWH)	126,352
Total	**-417,432**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 11 – Solar Panels	
GHG Emissions Reduction Benefits from Scenario 11 (11,044 GWH)	-2,234,150
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**-2,228,248**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 12 – Hydrogen Fueling Infrastructure and Trucks	
Hydrogen Fueling Infrastructure Installation Amortized Over 30 Years	2,512
GHG Emissions Reduction Benefits from Scenario 12	-512,184
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**-503,770**
Significance Threshold	10,000
Exceed Significance?	**NO**

Table 4.1-16
Summary of GHG Emissions from the Proposed Project

Activity	Compliance Year 2031 CO_2eq (MT/year[a])
Scenario 15 – High Efficiency Filtration Systems	
Electricity from MERV-16 HVACs (746 GWH)	111,379
GHG Emissions Reduction Benefits from Scenario 15	0
Worst Case (Up to Three) Relocation Impacts	4,328
Total	**115,707**
Significance Threshold	10,000
Exceed Significance?	**YES**
Scenario 18 – ZE Cargo Handling Equipment	
Electricity from ZE Cargo Handling Equipment (149 GWH)	22,255
GHG Emissions Reduction Benefits from Scenario 18	-169,723
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**-141,566**
Significance Threshold	10,000
Exceed Significance?	**NO**

EMFAC2017 was used to calculate the class-specific CO_2eq emission rates for truck categories considered to be likely to visit warehouses (as discussed in WAIRE Program Technical Document). For Scenario 17, CARB's Draft 2019 TRU Emissions Inventory Output for Single Body Truck TRU Under Regulation Concept Scenario was used. In Scenario 18 CO_2 emission rates were derived from Orion off-road Emissions Inventory for Port Cargo Handling Equipment Type, Yard Trucks. Electricity sector emission are based on the Carbon Intensity for SCE identified in the 2019 Sustainability Report and adjusted to reflect Senate Bill 100 (i.e., 329 lbs/MWH).

The proposed project would have GHG emissions co-benefits from several of the WAIRE Points scenarios despite the indirect increase in GHG emissions from potential worst-case up to three warehouse relocations, electricity use, and construction-related emissions. It should be noted that although it is not possible to forecast a specific reasonable worst-case scenario that would occur with implementation of the proposed project, the actual impacts that would occur with implementation of the proposed project would be within the range of that identified in Table 4.1-16.

As shown in this Table 4.1-16, GHG emissions would not exceed South Coast AQMD's GHG significance threshold for all the scenarios except Scenario 15. In this scenario, the increase in electricity use from installation of higher efficiency filter systems and emissions from potential worst-case up to three warehouse relocations assumed in this EA would result in an indirect increase in GHG emissions associated with the proposed project; however, for this Scenario there is not a regional GHG emissions benefit since this compliance option aims to reduce exposure to diesel particulate matter emissions. As a result, under Scenario 15, where all warehouse facilities, landowners, or warehouse facility operators would select installation of high efficiency filter systems at sensitive receptors proximate to a warehouse as the single, sole compliance option to meet WPCO, the proposed project's GHG would exceed the South Coast AQMD's significance criteria. Additional GHG emissions could also result from cargo shippers diverting their cargo to other ports, though this EA has concluded that outcome is not reasonably foreseeable, it is not possible to quantify any such increase., and any increase would likely be small. For these reasons, implementing the proposed project is conservatively expected to potentially generate a significant

adverse cumulative GHG impact. Therefore, the proposed project could generate GHG emissions, either directly or indirectly, that may have a significant adverse impact on the environment. However, as noted previously, South Coast AQMD staff intends to conduct ongoing monitoring, review, and reporting on the performance of the WAIRE Program. These 'check-ins' will provide useful information on implementation details and help identify effects of the WAIRE Program on warehouses in the region.

4.1.5 Consistency with Greenhouse Gas Reduction Plans (Significance Criteria g)

The primary plan that governs GHG emission reductions in California is CARB's 2017 Scoping Plan Update. The Scoping Plan Update incorporates freight and mobile source strategies to reduce emissions from the goods-movement sector.[13] On May 16, 2016, CARB released the 2016 Mobile Source Strategy that demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years.[14] Under Senate Bill 44, CARB is required to update the Mobile Source Strategy every five years. CARB recently prepared a Draft 2020 Mobile Source Strategy.[15] The Update to the Mobile Source Strategy considers the recent Executive Order N-79-20 which established a goal that 100 percent of California sales of new passenger car and trucks will be ZE by 2035 and a goal transition existing trucks to ZE medium- and heavy-duty vehicles, where feasible, by 2045. The Mobile Source Strategy identifies the following strategies for on-road medium- and heavy-duty vehicles:

- Manufacturer requirements to foster clean technology production and sales;
- In-use requirements to accelerate penetration of newer technology;
- Incentive programs to promote and accelerate the use of advanced clean technologies;
- Enhanced enforcement strategies to ensure programs are achieving their anticipated benefits;
- Outreach and education to increase consumer awareness and acceptance of advanced vehicle and equipment technologies; and
- Infrastructure planning and development to support the transition to cleaner technologies.

The proposed project would accelerate the integration and use of NZE and ZE trucks and supporting infrastructure within South Coast AQMD's jurisdiction by providing WAIRE Points incentives for warehouse operators to buy and use NZE and ZE trucks as well as install supporting infrastructure. Thus, the proposed project facilitates the implementation of the most recent statewide strategies for good movement as outlined in the Draft 2020 Mobile Source Strategy and Executive Order N-79-20; therefore, the proposed project is consistent with statewide strategies for goods movement to reduce GHG emissions.

The proposed project is also consistent with the Mobile Source Control Measures in the 2016 AQMP and statewide strategies to reduce GHG emissions from the goods movement sector. The

[13] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on March 18, 2019.

[14] California Air Resources Board. 2016, May 16. 2016 Mobile Source Strategy. Https://ww2.arb.ca.gov/resources/documents/2016-mobile-source-strategy

[15] California Air Resources Board. 2020, November 24. Draft 2020 Mobile Source Strategy https://ww2.arb.ca.gov/sites/default/files/2020-11/Draft_2020_Mobile_Source_Strategy.pdf

2016 AQMP includes measures that examine and assess control of air pollutant emissions as they pertain to the following: emissions growth management, facility based mobile source, on-road and off-road mobile sources, incentive programs, on-road heavy-duty and off-road federal and international sources, and off-road equipment. Because the proposed project would promote the transition from diesel and gasoline trucks to NZE and ZE trucks and ZE cargo handling equipment to be operated on the warehouse sites, it would reduce GHG emissions as these trucks are retired. In addition, the proposed project would also aim to reduce emissions by introducing ZE charging stations and hydrogen fueling stations. While the proposed project could increase electricity consumption by promoting the transition from diesel to electric vehicles and allowing warehouse operators to comply by installing filter systems at sensitive receptors, the proposed project also allows warehouse operators to comply by installing solar panels, which would help to offset some of the increased electricity use. Finally, while the proposed project may have an effect on NZE and ZE truck VMT in the South Coast AQMD, it is also possible that operators consolidate the number of truck visits at a facility. Because there is an incentive to increase efficiency of truck movements to reduce the number of truck trips generated at an operator's facility, which in turn reduces the warehouse operator's WPCO, and may reduce air pollutant emissions from fewer truck trips generated.

Thus, the proposed project would be consistent with the Mobile Source Control Measures in the 2016 AQMP and statewide strategies in the Scoping Plan Update to reduce GHG emissions from the goods movement sector and would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

PROJECT IMPACTS – CONCLUSION: Based on the preceding analysis, construction-related air quality impacts (Scenario 6 and Scenario 12), air quality impacts during overlap of construction and operational activities (near-term impacts for Scenario 6 and Scenario 12), and GHG emissions impacts (Scenario 15) could be significant. Indirect construction-related air quality emissions associated with the construction of new manufacturing and recycling facilities, as well as infrastructure for NZE and ZE vehicles could also be significant. For these reasons, implementing the proposed project could generate a potentially significant adverse short-term construction-related air quality impacts and long-term GHG emissions impacts from Scenario 15 (MERV 16 or greater filters and filtration systems) and cargo growth diversion. However, long-term air quality impacts, and consistency of the proposed project with GHG reduction plans are less than significant impacts of the proposed project.

PROJECT MITIGATION MEASURES: The analysis indicates that long-term air quality impacts are less than significant. To reduce short-term significant adverse air quality impacts during construction, individual construction projects under Scenario 6 or Scenario 12 could utilize newer construction equipment that has lower NOx emissions. South Coast AQMD's Mitigation Monitoring and Reporting Plan for the 2016 Air Quality Management Plan is an additional resource to assist lead agencies with identifying other potential mitigation measures. When South Coast AQMD is not the Lead Agency for undertaking actions to comply with the proposed project, the following mitigation measures can be used as a reference for other lead agencies, where applicable and feasible:

- All off road diesel-powered construction equipment greater than 50 hp shall meet U.S. Environmental Protection Agency (U.S. EPA) Tier 4 Final off-road emission standards, where available. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emissions control device used by the

contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. This requirement shall be included in applicable bid documents, purchase orders, and contracts.

- A copy of each unit's certified tier specification, BACT documentation, and CARB or South Coast AQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.
- All construction equipment must be tuned and maintained in compliance with the manufacturer's recommended maintenance schedule and specifications that optimize emissions without nullifying engine warranties. All maintenance records for each equipment and their construction contractor(s) should be made available for inspection and remain onsite for a period of at least two years from completion of construction.
- Encourage construction contractors to apply for South Coast AQMD "SOON" funds. The "SOON" program provides funds to applicable fleets for the purchase of commercially-available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles. More information on this program can be found at South Coast AQMD's website: http://www.aqmd.gov/home/programs/business/business-detail?title=off-road-diesel-engines.
- Prohibit vehicles and construction equipment from idling longer than five minutes at the construction site by including these restrictions in the construction company contract(s) and by posting signs onsite, unless the exceptions in the CARB regulations which pertain to idling requirements are applicable.
- During construction, require the use of ZE) or NZE trucks (e.g., material delivery trucks and soil import/export), such as trucks with natural gas engines that meet the CARB's adopted optional NOx emission standard of 0.02 grams per brake horsepower-hour (g/bhp-hr). At a minimum, require that truck operator(s)/construction contractor(s) commit to using 2010 model year or newer engines that meet CARB's 2010 engine emission standards of 0.01 g/bhp-hr for particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks.
- Require construction equipment such as concrete/industrial saws, pumps, aerial lifts, material hoist, air compressors, forklifts, excavator, wheel loader, and soil compactors be electric or alternative-fueled (i.e., non-diesel).
- Survey and document the proposed project's construction areas and identify all construction areas that are served by electricity. Onsite electricity, rather than temporary power generators, shall be used in all construction areas that are demonstrated to be served by electricity.

Similarly, the mitigation measures described in CARB's Final EA for the ACT Regulation could reduce air quality impacts from construction of new manufacturing facilities, battery facilities, and infrastructure project to support the transition to NZE and ZE vehicles.

While these measures could reduce the indirect air quality impacts associated with potential construction projects, South Coast AQMD does not have land use authority over those projects. To the extent future discretionary review is required for these types of improvements (i.e., ZE charging station installation and hydrogen fueling infrastructure installation), the lead agencies for those projects may consider the specific impacts and mitigation measures required. While South

Coast AQMD is a commenting agency for CEQA projects within the South Coast AQMD region, it is up to the lead agencies for these particular construction projects to impose additional mitigation requirements under CEQA. As a result, while there are potential measures that could reduce and/or eliminate temporary construction-related impacts, these mitigation measures are within the responsibility and jurisdiction of another public agency. Additionally, construction emissions impacts under Scenario 6 and Scenario 12 are short-term in nature and are based on an extremely conservative modeling scenario that assumes that all warehouse operators would select one compliance option as the sole compliance option to achieve their WPCO. At full implementation of the proposed project (year 10), there would be an overall reduction in NOx and PM10 emissions during the operational phase of the proposed project that would offset the increase in emissions from construction activities and emissions under the worst-case relocation under both Scenario 6 and Scenario 12. For GHG emissions, there are no additional mitigation measure that would reduce or eliminate the increase in GHG emissions from the additional energy use caused by installation of MERV 16 or greater filters and filtration systems (Scenario 15) and from cargo growth diversion.

REMAINING IMPACTS: No feasible mitigation measures were identified that are within South Coast AQMD's jurisdictional authority to impose; thus, construction-related air quality impacts (Scenario 6 and Scenario 12); impacts during overlap of construction and operational activities (near-term impacts for Scenario 6 and Scenario 12); indirect construction-related air quality impacts from potential development of manufacturing facilities, battery facilities, and infrastructure projects to support transition to NZE and ZE vehicles; and GHG impacts (Scenario 15 and from cargo growth diversion) would remain significant and unavoidable.

CUMULATIVE IMPACTS: The short-term construction-related air quality impacts and the long-term GHG emissions impacts are the project's cumulative contribution to air quality and GHG emissions impacts. Thus, construction-related air quality impacts (Scenario 6 and Scenario 12); impacts during overlap of construction and operational activities (near-term impacts for Scenario 6 and Scenario 12); indirect construction-related air quality impacts from potential development of manufacturing facilities, battery facilities, and infrastructure projects to support transition to NZE and ZE vehicles; and GHG impacts (Scenario 15 and from cargo growth diversion) are considered to be cumulatively considerable pursuant to CEQA Guidelines Section 15064(h)(1); and therefore, this EA identifies significant adverse cumulative air quality and GHG impacts associated with the proposed project.

It should be noted that the impact analysis is a conservative analysis and the actual construction and operational impacts are not expected to be as great as estimated in this EA. Additionally, the construction activities are temporary when compared to the permanent project long-term emission reductions of NOx as a result of the proposed project (see Table 4.1-7 at year 2031). Even though the proposed project will cause a temporary, less than significant increase in air emissions during the construction and operation phase, the temporary net increase in construction emissions combined with the total permanent emission reductions projected overall during operation would not interfere with the expected overall NOx reductions as part of the proposed project. Therefore, cumulative long-term operational air quality impacts from the proposed project is not expected to be significant because implementation of the proposed project is expected to result in net emission reductions and overall air quality improvement. Therefore, there will be no significant long-term cumulative adverse operational air quality (criteria air pollutant) impacts from implementing the proposed project.

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4.2 ENERGY

The overall purpose of the proposed project is to reduce NOx and PM, including DPM, emissions associated with warehouse operations in the South Coast AQMD region. To accomplish this purpose, the proposed project allows warehouse operators to comply with PR 2305 by, among other things, acquiring and using NZE and ZE trucks. As a result, the proposed project incentivizes transition to NZE and ZE trucks.

Compliance with the rule may, in some cases, require construction of new facilities. For example, if a warehouse chooses to comply with its WPCO by constructing a new electric vehicle (EV) charging station, that activity will require construction. As a result, compliance with the rule could have potentially significant energy impacts associated with that construction. These construction-related impacts are analyzed below.

Similarly, the proposed project could affect market decisions related to goods movement more generally. For example, depending on how stringent the rule is (and thus how expensive it is for warehouse operators to comply), warehouse operators may consider locating new warehouses outside of the South Coast AQMD jurisdiction to avoid having new warehouses subject to the rule. These potential impacts are considered 'operational' impacts of the proposed project, and are analyzed below.

Because the proposed project would encourage and incentivize the purchase and use of NZE and ZE vehicles. It could indirectly result in the construction and operation of new manufacturing and recycling facilities, as well as infrastructure improvements necessary to meet this increased demand for NZE and ZE vehicles. These potential impacts were analyzed in CARB's Final EA for the ACT Regulation, and this EA incorporates that analysis by reference here. Because these potential impacts are indirect, and because the circumstances surrounding any such future development are unknown, the analysis of the proposed project's potential indirect impacts on energy associated with this development is discussed separately from the analysis of the proposed project's direct impacts.

The 2016 AQMP EIR also analyzed the potential construction and operational energy impacts of Control Measure MOB-03, an indirect source rule for warehouses. The EIR stated that mobile source control measures, including MOB-03, "are expected to increase the electricity demand in the Basin due to the electrification of mobile sources." 2016 AQMP Final Program EIR at 4.2-11. The EIR concluded: "The 2016 AQMP will result in less than significant impacts to the increased demand of alternative fuels, alternative energy, renewable energy, petroleum fuels, and natural gas. However, the electricity consumption impacts are significant because the potential 2024 electricity usage increase would exceed baseline electricity consumption by 7.8 to 12.7 percent. Even with implementation of the above mitigation measures, electricity consumption impacts would remain significant." This EA incorporates this analysis by reference, including the listed mitigation measures, as a supplement to the analysis provided below.

In general, because the proposed project allows warehouse operators to comply in a number of ways, it is not possible to determine the exact energy impacts of the proposed rule. Nonetheless, the following analysis provides a conservative estimate of potential impacts and benefits of the proposed rule. A summary of the impact scenarios considered in this analysis is provided in Table 4.2-1.

Table 4.2-1
WAIRE Program Scenarios Considered for the Energy Impact Analysis

Scenario #	Scenario	Construction	Operational Phase			
			Diesel Fuel Increase from Up to Three Warehouse Relocations	Diesel Fuel Reduction Benefits from NZE and ZE Trucks	Alternative Fuel Used (Hydrogen or Natural Gas)	Electricity
Scenario 1	NZE Class 8 Truck Acquisitions and Visits (No Incentives)	No	Yes	Yes	Natural Gas	No
Scenario 2	NZE Class 8 Truck Acquisitions with Early Purchase (of one truck more than the required by WPCO) and Visits	No	Yes	Yes	Natural Gas	No
Scenario 3	NZE Class 8 Truck Acquisitions Funded by Carl Moyer and Visits	No	Yes	Yes	Natural Gas	No
Scenario 4	NZE Class 8 Truck Visits (Use from Non-Owned Fleet)	No	Yes	Yes	Natural Gas	No
Scenario 5	ZE Class 8 Truck Visits (Use from Non-Owned Fleet)	No	Yes	Yes	No[d]	No[b]
Scenario 6	Level 3 Charger Installations in the First Year and ZE Class 6 and 8 Truck Acquisitions.	Yes	Yes	Yes	No	Yes
Scenario 7	Pay Mitigation Fee	No	Yes	No	No	No
Scenario 8	NZE Class 6 Truck Acquisitions and Visits (No Incentives)	No	Yes	Yes	Natural Gas	No
Scenario 9	NZE Class 6 Truck Visits (Use from Non-Owned Fleet)	No	Yes	Yes	Natural Gas	No
Scenario 10	ZE Class 6 Truck Visits (Use from Non-Owned Fleet)	No	Yes	Yes	No[d]	No
Scenario 11	Rooftop Solar Panel Installations and Usage	Yes[a]	Yes	No	No	Yes

Table 4.2-1
WAIRE Program Scenarios Considered for the Energy Impact Analysis

Scenario #	Scenario	Construction	Operational Phase			
			Diesel Fuel Increase from Up to Three Warehouse Relocations	Diesel Fuel Reduction Benefits from NZE and ZE Trucks	Alternative Fuel Used (Hydrogen or Natural Gas)	Electricity
Scenario 12	Hydrogen Fueling Station Installations in the First Year and ZE Class 8 Truck Acquisitions and Visits (No Incentives)	Yes	Yes	Yes	Hydrogen	No
Scenario 13	ZE Class 2b-3 Truck Acquisitions and Visits (No Incentives)	No	Yes	Yes	No[d]	No[b]
Scenario 14	ZE Class 2b-3 Truck Visits (Use from Non-Owned Fleet)	No	Yes	Yes	No[d]	No[b]
Scenario 15	MERV-16 or Greater Filter and Filtration System Installations	Yes[a]	Yes	No	No	Yes
Scenario 16	MERV-16 or Greater Filter and Filtration System Purchases	No	Yes	No	No	No
Scenario 17	TRU Plug Installations and Usage in Cold Storage Facilities	No	Yes	No	No	Yes[c]
Scenario 18	ZE Cargo Handling Equipment Acquisitions and Usage	Yes[a]	Yes	No	No	Yes

Notes:
[a] This scenario would generate fuel from worker and/or vendor deliveries but would not generate fuel from off-road equipment. As a result, construction fuel use from this scenario are considered nominal and are not modeled.
[b] Energy from use and/or purchase of ZE trucks is considered under Scenario 6.
[c] Although ZE TRUs plugged in at docks would generate an increase demand for electricity, the proposed rule shows that the proposed project would not result in an incremental increase in demand for EV TRUs above the baseline. Therefore, this scenario is not modeled.
[d] Hydrogen fuel associated with ZE trucks is modeled under Scenario 12 since it is the scenario that assumes 100 percent hydrogen fueled ZE trucks rather than 100 percent electric or a blend of electric and hydrogen trucks. .

4.2.1 Significance Criteria

Impacts to energy resources will be considered significant if any of the following criteria are met:

a. Conflict with or obstruct adopted energy conservation plans, a state or local plan for renewable energy, or energy efficiency.

b. Result in the need for new or substantially altered power or natural gas utility systems.

c. Create any significant effects on local or regional energy supplies and on requirements for additional energy.

d. Create any significant effects on peak and base period demands for electricity and other forms of energy.

e. Comply with existing energy standards.

f. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

g. Require or result in the relocation or construction of new or expanded electric power, natural gas or telecommunication facilities, the construction or relocation of which could cause significant environmental effects.

The Initial Study for the proposed project, under Chapter 2, Section VI, *Energy*, Impacts (a), (e), and (f), showed that the proposed project does not require any action which would result in any conflict with an adopted energy conservation or efficiency plan or result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Any existing or future facilities that are built to satisfy the requirements of the proposed project would be expected to continue implementing any existing energy conservation plans that are currently in place. Therefore, these significance criteria (a, e, and f) will not be discussed further in this Draft EA.

4.2.1.1 Lifecycle Analysis

CEQA does not require a full lifecycle analysis of potential environmental effects. This is because the impact analysis in CEQA is subject to the rule of reason. Moreover, CEQA only requires analysis of impacts that are directly or indirectly attributable to the project under consideration (CEQA Guidelines Section 15064(d)). Lifecycle analysis in general may not be consistent with CEQA as the term 'lifecycle' could refer to emissions beyond those that could be considered 'indirect effects' of a project under CEQA Guidelines 15358.[1]

The Natural Resources Agency has indicated that a lifecycle analysis is not necessary to adequately analyze a project's energy or GHG impacts. Pursuant to the Natural Resources Agency's *Final Statement of Reasons for the Regulatory Action Amendments to the State CEQA Guidelines*, the energy impact analysis in CEQA is subject to the 'rule of reason.'

[1] California Natural Resources Agency. 2009, December. Final Statement of Reasons for the Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97. https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Final_Statement_of_Reasons.pdf

> "This [energy] analysis is subject to the rule of reason and shall focus on energy use that is caused by the project." (CEQA Guidelines Section 15126.2(b))

This was added to the CEQA Guidelines to place a reasonable limit on the analysis and signal that a full lifecycle analysis will generally not be required.[2]

Similarly, according to the *Final Statement of Reasons for the Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97*:

> "In some instances, materials may be manufactured for many different projects as a result of general market demand, regardless of whether one particular project proceeds. Thus, such emissions may not be "caused by" the project under consideration. Similarly, in this scenario, a lead agency may not be able to require mitigation for emissions that result from the manufacturing process. Mitigation can only be required for emissions that are actually caused by the project. (State CEQA Guidelines, § 15126.4(a)(4).) Conversely, other projects may spur the manufacture of certain materials, and in such cases, consideration of the indirect effects of a project resulting from the manufacture of its components may be appropriate. A lead agency must determine whether certain effects are indirect effects of a project, and where substantial evidence supports a fair argument that such effects are attributable to a project, that evidence must be considered. However, to avoid potential confusion regarding the scope of indirect effects that must be analyzed, the term "lifecycle" has been removed from Appendix F."

Preparing a "lifecycle" analysis for the proposed project—i.e., an analysis of all of the potential energy, air quality, and GHG impacts associated with the proposed project's role in incentivizing the transition from diesel vehicles to NZE ZE vehicles—would also be speculative given that the proposed project allows regulated warehouses to comply through a number of different means. For all of these reasons, this EA does not attempt to provide such a lifecycle analysis.

4.2.2 Energy Impacts During Construction (Significance Criteria b, c, d and g)

Construction activities undertaken to comply with the proposed project would consume energy, in the short term, due to gasoline and/or diesel fuel and electricity consumed by construction equipment and vehicles. Construction equipment-related energy use impacts were concluded to be less than significant in the IS under Chapter 2, Section VI, *Energy*, Impact (b), (c), (d) & (g), and will not be discussed further in this Draft EA. Therefore, this analysis focuses on potential transportation energy use from delivery vehicles and construction employee vehicles. However, since information was available on off-road vehicle fuel use, this information is also included below.

Here, ˈconstructionˈ activities associated with the proposed project include: the installation of ZE charging, installation of hydrogen fueling station, installation of solar panels, installation of additional ˈplugsˈ to accommodate ZE transport refrigeration units (TRUs) or ZE cargo handling equipment, and installation of high-efficiency HVAC systems. This is because, warehouse

[2] California Natural Resources Agency. 2018, November. Final Statement of Reasons for the Regulatory Action Amendments to the State CEQA Guidelines. OAL Notice File No. Z-2018-0116-12. https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf

operators may choose to comply with the proposed project by undertaking the following activities, all of which involve construction:

- **ZE Charger Installation (Scenario 6)**. Construction of ZE charging stations at existing warehouses would warrant use of heavy, off-road construction equipment, worker trips, and vendor deliveries. Based on information compiled for ZE charging station projects by South Coast AQMD, installation of ZE truck charging infrastructure at a warehouse is assumed to have a construction duration of two days, an estimated ZE charging pad size of 5,000 square feet, and the following construction equipment: one industrial concrete saw, one backhoe, one skid steer loader with augur attachment (bore/drill), one crane, and one cement mixer. Modeling for this scenario was conducted using CalEEMod Version 2016.3.2.
- **Hydrogen Fuel Stations (Scenario 12)**. Construction of hydrogen fueling stations at existing warehouses would warrant use of heavy, off-road construction equipment, worker trips, and vendor deliveries. Based on information compiled for similar fuel station projects at existing gas stations, installation of a hydrogen fueling station at a warehouse is assumed to have an 'active' construction duration of 2.5 months, on a 0.3-acre site, and the following construction equipment: one backhoe, one crane, and concrete and delivery trucks. Modeling for this scenario was conducted using CalEEMod Version 2016.3.2.
- **Solar Panel Installation (Scenario 11).** Installation of solar panels on warehouse rooftops would use fuel from worker vehicle trips and vendor deliveries. It is not anticipated to require use of heavy, off-road construction equipment. Additionally, construction activities would occur over a short period (1-5 day). As a result, installation of solar panels is anticipated to have nominal construction fuel use; and therefore, construction fuel use was not modeled for this scenario.
- '**Plug**' **Installation for ZE TRUs (Scenario 17) or ZE Cargo Handling Equipment (Scenario 18)**. Installation of additional electric outlets to accommodate ZE equipment such as ZE TRUs and ZE cargo handling equipment at docks and building exterior/interior is anticipated to result in fuel use from construction worker trips. It is not anticipated to require substantial building modifications that would warrant use of heavy, off-road construction equipment. Additionally, construction activities would occur over a short period (1-5 days). As a result, installation of plugs/outlets at warehouses is anticipated to have nominal construction fuel use; and therefore, construction fuel use was not modeled for this scenario.
- **High Efficiency HVAC Filter System Installation (Scenario 15)**. Installation of HVAC equipment at sensitive land uses is anticipated to result in fuel use from construction worker trips. It is not anticipated to require substantial building modifications that would warrant require use of heavy, off-road construction equipment. Additionally, construction activities would occur over a short period (1-5 days). As a result, installation of high-efficiency HVACs filter systems is anticipated to have nominal construction fuel use; and therefore, construction fuel use was not modeled for this scenario.

Scenarios 1 through 5, 8 through 10, and 13 and 14 would allow WAIRE Points for purchase and use of NZE and ZE trucks, and would not require short-term construction activities to implement. Likewise, Scenario 7 (mitigation fee), Scenario 16 (high efficiency filter purchases), and Scenario 18 (ZE cargo handling equipment purchase and use) would not require short-term construction activities to implement.

As discussed elsewhere in this EA, it is not possible to predict which WAIRE Points menu options each of the warehouse operators subject to the proposed project would choose. Moreover, the proposed project allows warehouse operators to propose a custom plan and/or pay a mitigation fee. Given that a warehouse operator has many factors to consider when choosing how to meet their WPCO, it is not possible to predict warehouse operator choices; and therefore, this EA assessed the construction impacts associated with the scenarios listed above, and conducted construction modeling for Scenarios 6 and 12.

For these two scenarios (Scenario 6 and Scenario 12), the model assumed that all warehouse operators subject to the WAIRE Program would select the same compliance option. Thus, for example, in Scenario 6, the model assumed all warehouse operators would comply with the WAIRE Program by installing ZE charges. Assumptions were then made to estimate combustion emissions (and associated diesel fuel use) for Scenario 6 and Scenario 12 from construction activities necessary to carry out the compliance option, including construction on-road emissions from worker trips, deliveries, and haul trips.

Transportation fuel use was calculated for Scenario 6 (ZE truck charger installation) and Scenario 12 (hydrogen station) because these scenarios would warrant construction activities that are more intensive than the other WAIRE points scenarios. As identified previously, the WAIRE Points scenarios assume that all warehouse operators selected that compliance option as the sole compliance option to meet their WPCO. As a result, the highest emissions scenario represents the worst-case potential construction fuel associated with the proposed project. For Scenario 6, if 100 percent of warehouse facilities that are expected to be required to earn WAIRE Points (2,902 facilities) chose to install ZE chargers in the first year to meet their WPCO, then there would be up to 1,863 ZE chargers that would be installed. For Scenario 12, if 100 percent of the 2,902 facilities chose to meet their WPCO by installing hydrogen stations, then there would be 1,160 hydrogen fueling stations installed in year 2024 (compliance year three is the worst-case year).

Construction worker and vendor trips for these two scenarios were calculated using CalEEMod, Version 2016.3.2.25 computer model based on data compiled by the South Coast AQMD for Scenario 6 (ZE charger) and Scenario 12 (hydrogen fueling station infrastructure) projects on developed sites. Vehicle miles traveled (VMT) from construction worker and vehicle trips during construction was converted to fuel use using EMFAC2017 Version 1.0.3. Modeling is included in Appendix D of this EA. The results are shown in Table 4.2-2 for Scenario 6 and Table 4.2-3 for Scenario 12.

Table 4.2-2
Construction Fuel Use Associated with ZE Truck Charger Installations – Scenario 6

Activity	Gasoline		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
Construction Fuel Use Associated with One ZE Charger Project						
Worker Commute[a]	58	2	<1	<1	1	<1
Vendor Trips[b]	<1	<1	68	10	0	0
Off-Road Equipment	-	75	-	169	-	0
Total	**58**	**78**	**68**	**189**	**1**	**<1**
Worst-Case Year – 1,863 ZE Charger Projects in the South Coast AQMD Region						
Worker Commute	107,637	3,967	664	16	1,062	352
Vendor Trips	76	19	126,584	19,187	0	0
Off-Road Equipment	-	135,336	-	303,229	-	0
Total	**107,713**	**144,526**	**127,248**	**334,094**	**1,062**	**352**

Source: CalEEMod Version 2016.3.2.25, EMFAC2017 Version 1.0.3 (based on LDA, LDT1, LDT2, and T7, vehicle categories), OFFROAD2017.
Notes:
[a] Based on CalEEMod default assumptions, which assumes worker trips consist of 50 percent light-duty auto (LDA), 25 percent light-duty truck type 1 (LDT1), and 25 percent light-duty truck type 2 (LDT2).
[b] Based on CalEEMod default assumptions, which assumes that all vendors' vehicles are heavy heavy-duty trucks (HHDT). For purposes of this analysis, fuel usage associated with vendor trips is based on the fuels data for the EMFAC2011 T7 vehicle category.

Table 4.2-3
Construction Fuel Use Associated with Hydrogen Fueling Station Infrastructure Installations – Scenario 12

Activity	Gasoline		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
Construction Fuel Use Associated with One Fueling Station						
Worker Commute[a]	737	27	5	0	7	2
Vendor Trips[b]	1	<1	1,862	282	0	0
Off-Road Equipment	-	0	-	1,781	-	0
Total	**738**	**27**	**1,866**	**2,064**	**7**	**2**
Worst-Case Year – 1,160 Hydrogen Fueling Station Projects in the South Coast AQMD Region						
Worker Commute	854,508	31,490	5,270	124	8,431	2,795
Vendor Trips	1,301	322	2,159,600	327,344	0	0
Off-Road Equipment	-	0	-	2,066,467	-	0
Total	**855,809**	**31,812**	**2,164,870**	**2,393,936**	**8,431**	**2,795**

Source: CalEEMod Version 2016.3.2.25, EMFAC2017 Version 1.0.3 (based on LDA, LDT1, LDT2, and T7 vehicle categories), OFFROAD2017.
Notes:
[a] Based on CalEEMod default assumptions, which assumes worker trips consist of 50 percent light-duty auto (LDA), 25 percent light-duty truck type 1 (LDT1), and 25 percent light-duty truck type 2 (LDT2).
[b] Based on CalEEMod default assumptions, which assumes that all vendors' vehicles are heavy heavy-duty trucks (HHDT). For purposes of this analysis, fuel usage associated with vendor trips is based on the fuels data for the EMFAC2011 T7 vehicle category.

The use of energy resources by off-road construction equipment, delivery vehicles, and construction employee vehicles would fluctuate according to the phase of construction and would be temporary and all construction-activities would cease upon completion of project construction. Furthermore, to limit wasteful and unnecessary energy consumption, the construction contractors are required to minimize nonessential idling of construction equipment during construction, in accordance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter

9. In addition, as shown in Table 4.2-2, construction activities associated with Scenario 6 could result in construction-related transportation fuel demands of 107,713 gallons of gasoline, 334,094 gallons of diesel, and 352 kWh of electricity. This would represent approximately 0.002 percent of gasoline usage and 0.02 percent of diesel fuel usage within counties of Los Angeles, Orange, Riverside, and San Bernardino. As for electricity demand, the estimated 352 kWh of electricity demand would be nominal when compared to the overall electricity demand in the region. Based on the annual electricity consumption stated in Section 3.3.1 of this EA, the combined total electricity consumption in the Southern California Edison (SCE) and Los Angeles Department of Water and Power (LADWP) service areas totaled 128,564 gigawatt hours for year 2019. For Scenario 12, as shown in Table 4.2-3, construction activities could result in construction-related transportation fuel demands of 31,812 gallons of gasoline, 2,393,936 gallons of diesel, and 2,795 kWh of electricity. This would represent 0.0005 percent of gasoline usage and 0.18 percent of diesel usage within the four aforementioned counties. Similar to Scenario 6, the estimated electricity demand of 2,795 kWh of electricity would also be nominal when compared to the overall existing electricity demand in the region. Therefore, in consideration of these factors, impacts from onsite construction equipment use and transportation energy associated with construction activities would not result in substantial depletion of existing energy resource supplies or impact the current capacities of the electric utilities and petroleum gas supplies. Therefore, impacts are less than significant.

4.2.3 Energy Impacts During Operations (Significance Criteria b, c, d and g)

The proposed project could impact energy consumption associated with trucking operations in the South Coast AQMD's jurisdiction in several ways. First, as discussed in the Transportation section, implementation of the proposed project could increase truck VMT due to potential warehouse facility relocations, resulting in an increase in energy consumption as a result of additional diesel fuel use to relocated warehouses as well as project diesel fuel use to earn WAIRE Points. However, this increase in diesel consumption associated with warehouse relocation would be offset by a reduction in diesel consumption associated with the increased use of NZE and ZE trucks, which is also incentivized under the proposed project. Under several compliance options, the proposed project would result in greater turnover of diesel fueled trucks to NZE and ZE trucks.

This transition from diesel fueled trucks to NZE and ZE trucks also has the potential to shift the type of energy sources utilized for the transportation sector in the South Coast AQMD region (fuel switching). Currently, the goods movement sector relies primarily of diesel fuel as the primary energy source for trucks. By providing a mechanism for warehouse operators that would incentivize early transition to NZE and ZE technology as a means to comply with the WPCO, the proposed project would create additional demands for electricity, hydrogen, and natural gas fuels, but less demand for diesel fuel compared to existing conditions (without the proposed project).

To determine the proposed project's energy impacts, the EA assessed the impacts (or benefits) of each of the WAIRE Point scenarios. The WAIRE Point scenarios assume that all warehouse operators selected that compliance option as the sole compliance option to meet their WPCO. Scenario 11, solar panels installation, resulted in the 'best case' energy benefit, as that Scenario assumes that all operators would choose to comply with the rule by installing solar panels on their facilities, thus generating additional energy. Scenario modeling for Scenario 17 (TRUs plug installation and usage in cold storage facilities) did not show an increase over existing regulations; therefore, no additional energy use is assumed with this scenario. Diesel, electricity, natural gas,

and hydrogen fuel impacts associated with potential up to three warehouse relocations assumed for the purpose of the EA and from the WPCOs that would affect energy use are described below:

4.2.3.1 Diesel Fuel

4.2.3.1.1 Increase in Diesel Fuel Use from Warehouse Relocations

According to the IEc Study[3], the proposed project would not result in warehouse relocations out of the South Coast AQMD's jurisdiction with a WPCO of 0.0025. If the rule stringency were increased such that it resulted in an annual $2.00 per square foot of additional cost to warehouses, the rule could result in a maximum of six warehouse relocations (see Chapter 5, Alternatives). This EA conservatively considers the potential for up to three warehouse relocations from the proposed project in order to provide a conservative analysis for the operational air quality and greenhouse gas emissions, energy, and transportation impacts. Table 4.2-4 shows the diesel fuel consumption associated with an increase in truck VMT from the relocations of three warehouses.

Table 4.2-4
Diesel Fuel from Potential Three Warehouse Relocations

Truck Classifications	Worst-Case Relocations (Up to Three Warehouses)	
	Diesel Truck Annual VMT	Diesel Fuel Gallons/Year[a]
Truck VMT Total	4,341,988	735,930

Note:
[a] VMT converted to diesel fuel using mpg of 5.9 from WAIRE Technical Document for Class 8 Trucks.

4.2.3.1.2 Range of Decrease in Diesel Fuel Consumption from NZE and ZE Trucks

Use of NZE and ZE trucks in the South Coast AQMD region would result in a reduction in diesel VMT and associated fuel use. The WAIRE Program would allow for purchase of new NZE and ZE trucks as a way for warehouse operators to meet their WPCO. It is anticipated that these operators replace their trucks with new NZE and ZE trucks some of these trucks may be retired (i.e., scrapped) and some of these trucks would be transitioned to other uses or warehouses outside of the South Coast AQMD's jurisdiction for trucks that are no longer eligible to access the San Pedro Bay Ports. However, even in this instance where the trucks are transitioned to other uses, it can be presumed that they would replace even older, higher emissions trucks in an operator's truck fleet. This assumption is based on the fact that the proposed project does not generate an increase in the national or even international demand for trucks used in the goods movement sector. Thus, operators that purchase the trucks replaced by NZE and ZE trucks pursuant to the proposed project would be replacing an existing truck that has aged out of or is nearing the end of its useful life. These assumptions support the conclusion that the proposed project would result in a greater turnover of diesel trucks to NZE and ZE trucks than would have occurred without implementation of the proposed project.

Replacing diesel trucks with NZE and ZE trucks would reduce diesel fuel consumption. Table 4.2-5 shows the potential reduction in diesel fuel consumed as a result of implementation of the proposed project under the different WAIRE Points Scenarios modeled. Since it is speculative to

[3] Ec. 2020, December 23. Assessment of Warehouse Relocations Associated with the South Coast Air Quality. Management District Warehouse Indirect Source Rule.

determine individual market actions operators will choose to comply with the proposed project, this EA considers the range of emissions benefits from each of the compliance options modeled as Scenarios 1 through 18 as a way to identify the potential environmental consequences of the WAIRE Points isolated for each individual compliance option.

Table 4.2-5
Potential Diesel Fuel Reductions in the South Coast AQMD Region from the Proposed Project

Scenario	Annual Diesel Truck VMT Reduced by Year 2031	Diesel Fuel Reduced Gallons/Year[a]
Scenario 1	634,183,368	107,488,706
Scenario 2	625,759,680	106,060,963
Scenario 3	622,854,960	105,568,637
Scenario 4	563,601,625	95,525,699
Scenario 5	347,800,884	58,949,302
Scenario 6	0	0
Scenario 8	690,714,128	117,070,191
Scenario 9	701,925,624	118,970,445
Scenario 10	640,073,515	108,487,036
Scenario 12	274,347,219	46,499,529
Scenario 13	926,993,772	157,117,588
Scenario 14	937,552,394	158,907,185
Max. Potential Reduction	**937,552,394**	**164,087,479**
Min. Potential Reduction	**0**	**0**

Notes: Reduction in diesel-VMT above the cumulative baseline, accounting for other approved and pending regulations that affect diesel trucks in California. Under Scenario 6, should all warehouse operators choose to purchase NZE and ZE trucks to meet their WPCO, by year 2031 ISR would have no incremental effect above existing California Air Resources Board (CARB) rules.
[a] VMT converted to diesel fuel using mpg of 5.9 from WAIRE Technical Document for Class 8 Trucks..

4.2.3.1.3 Impacts to Diesel Fuel Supplies

As stated, in 2019, California consumed 3.7 billion gallons of diesel fuel with 1.3 billion gallons of diesel fuel sales occurring in the counties of Los Angeles, Orange, Riverside, and San Bernardino.[4,5] As shown in Table 4.2-5 and discussed in Section 4.2.3.1.1 above, the 'worst-case' analysis assumed for warehouse relocations due to implementation of the WAIRE Program would result in increased diesel fuel consumption of 454,373 gallons per year. This estimated amount of demand would represent 0.03 percent of the 3.7 billion gallons of total diesel fuel sales within the four aforementioned counties, which would be a nominal amount. In addition, as shown in Table

[4] California Energy Commission. 2020, September 22. 2019 California Annual Retail Fuel Outlet Report Results (CEC-A15). https://www.energy.ca.gov/sites/default/files/2020-10/2010-2019%20CEC-A15%20Results%20and%20Analysis.xlsx.

[5] Diesel is adjusted to account for retail (47.2 percent) and non-retail (52.8 percent) diesel sales.

4.2-5, potential diesel fuel reductions, when considering only the additional benefits of the WAIRE Program, could range from 12,770,331 gallons up to 48,010,946 gallons per year.[6] This range in potential diesel fuel reductions is based on WAIRE Points scenarios modeling where each scenario assumes full implementation of only one single compliance option by 2,902 warehouses Thus, the likely range in diesel fuel reduction would likely fall within this estimated range. However, it is anticipated that any increase in diesel fuel demand resulting from up to three warehouse relocations would be either partially or fully offset from the overall diesel fuel demand reductions resulting from implementation of the WAIRE Program. Overall, it is anticipated that impacts of the proposed project to the regional diesel fuel supplies would be less than significant.

4.2.3.2 Electricity

4.2.3.2.1 Increase in Electricity from ZE Trucks

ZE trucks would generate an increase in demand for electricity. This EA identifies the anticipated increase in electricity use from ZE trucks purchased and used as a result of the proposed project. Scenario 6 is the scenario in which all warehouse operators selected the installation of Level 3 ZE chargers and purchase and use of ZE trucks as the sole compliance option to meet their WPCO. Table 4.2-6 shows the potential increase in electricity from the proposed project for years 1 through 10. As identified previously, it is unlikely that all 2,902 warehouse operators would choose to fulfill their WPCO through this compliance option as their single, sole compliance option in every compliance year for 10 years. As a result, the electricity use identified in the table provides a conservative estimate of the greatest potential increase in electricity use associated with the proposed project.

Table 4.2-6
Electricity Use from Purchase and Use of ZE Trucks – Scenario 6

Year	Electric Truck Electricity Usage		
	Class 4-7 GWH/Year	Class 8 GWH/Year	Total GWH/Year
Year 1 – 2022	0	0	0
Year 2 – 2023	0	0	0
Year 3 – 2024	134	0	134
Year 4 – 2025	330	8	338
Year 5 – 2026	461	23	484
Year 6 – 2027	572	31	603
Year 7 – 2028	634	36	670
Year 8 – 2029	695	38	733
Year 9 – 2030	750	40	790
Year 10 – 2031	**805**	**42**	**847**

Notes: GWH: Gigawatt hours

[6] Under Scenario 6, should all warehouse operators choose to purchase NZE and ZE trucks to meet their WPCO, by year 2031 ISR would have no incremental effect above existing and proposed CARB rules.

The proposed project would require installation of ZE chargers to charge electric trucks. If all warehouse operators selected installation of Level 3 ZE chargers and purchase and use of ZE trucks as the sole compliance option to meet their WPCO (Scenario 6), at year 10 there would be 5,501 additional Level 3 ZE chargers within South Coast AQMD's jurisdiction (see Table 4.2-7).

Table 4.2-7
Level 3 ZE Charger Installation in the South Coast AQMD Region – Scenario 6

Year	Number of ZE Chargers Installed
Year 1 – 2022	1,863
Year 2 – 2023	1,045
Year 3 – 2024	1,254
Year 4 – 2025	169
Year 5 – 2026	195
Year 6 – 2027	195
Year 7 – 2028	195
Year 8 – 2029	195
Year 9 – 2030	195
Year 10 – 2031	195
Total ZE Chargers Installed	**5,501**

The installation of Level 3 ZE chargers will require coordination with the local utility provider to ensure sufficient energy requirements (e.g., peak load, circuit capacity, etc.). While this EA identifies impacts associated with each individual compliance option identified in the WAIRE menu, the analysis in this EA cannot predict how each of the warehouse operators will comply with the proposed project. As a result, it is not possible to forecast a particular, region-wide compliance approach for the initial 2,902 warehouses that would likely need to earn WAIRE points in any given year. Thus, the analysis in this EA has taken the WAIRE Points scenarios approach outlined above in order to provide a conservative analysis of potential impacts of the proposed project.

4.2.3.2.2 Increase in Electricity from Installation of High-Efficiency Filtration Systems

Implementation of the proposed project could increase energy demand under Scenario 15 since high efficiency filter systems take slightly more electricity to operate than traditional heating, ventilation, and air conditioning (HVAC) systems. Scenarios 15 assumes that all warehouse operators would install high-efficiency filters or filter systems in residences, schools, daycares, hospitals, or community centers proximate to the warehouse location as the sole compliance option to meet their WPCO. An air filter's minimum efficiency reporting value (MERV) rating measures the effectiveness of filters. As identified in Table 4.2-8, installation of high efficiency filtration systems with MERV-16 filters would result in a total of 2,870,569 systems installed by end of year 2031, resulting in a total increase of 746 GWH a year.

Table 4.2-8
High Efficiency Filtration Systems Installed in the South Coast AQMD Region – Scenario 15

Compliance Year	High Efficiency Filtration Systems Installed Total	Increase in GWH/Yeara
Year 1 – 2022	62,279	16
Year 2 – 2023	148,858	39
Year 3 – 2024	255,667	66
Year 4 – 2025	303,258	79
Year 5 – 2026	329,467	86
Year 6 – 2027	337,714	88
Year 7 – 2028	345,961	90
Year 8 – 2029	354,208	92
Year 9 – 2030	362,455	94
Year 10 – 2031	370,702	96
Total	**2,870,569**	**746**

Notes: GWH: Gigawatt Hours. Based on installations in each compliance year.
[a] Based on an energy consumption of 260 kWh/yr per system.[7]

4.2.3.2.3 Increase in Electricity from Purchase and Use of ZE Yard Trucks

Scenario 18 assumes that all 2,902 warehouse operators selected purchase and use of ZE yard trucks as the sole compliance option to meet their WPCO. Use of ZE yard trucks would replace diesel yard trucks and result in both localized and regional emissions benefits. However, electric yard trucks would result in an increased demand for electricity. Table 4.2-9 shows the projected number of ZE yard trucks that would be purchased per year in addition to the associated electricity use under Scenario 18.

Table 4.2-9
Electricity from ZE Yard Truck Purchase and Use in the South Coast AQMD Region – Scenario 18

Year	ZE Yard Trucks Purchased	Greatest Possible GWH/Year[a]
Year 1 – 2022	1,183	36
Year 2 – 2023	1,082	33
Year 3 – 2024	1,423	44
Year 4 – 2025	153	5
Year 5 – 2026	268	8
Year 6 – 2027	324	10
Year 7 – 2028	112	3
Year 8 – 2029	107	3
Year 9 – 2030	106	3
Year 10 – 2031	106	3
Total	**4,864**	**149**

Notes: GWH: Gigawatt hours. Based on installations in each compliance year.
[a] Based on 365 days of operation per year and each yard truck would consume 84 kWh/day.[8]

[7] Peters, Christine. IQ Air. 2019, October 11. Personal Communication "School Filtration Costs – Installation, Maintenance" .

[8] Orange EV. 2018, April 17. Making Electrification Work: How to Successfully Deploy HDEVs A Yard Truck Case Study. https://www.gtsummitexpo.socialenterprises.net/program/2018presentations/MikeSaxton.pdf Accessed December 2020.

4.2.3.2.4 Purchase and Use of Solar Panels

Scenario 11 assumes that all warehouse operators selected installation of solar panels as the sole compliance option to meet their WPCO as a result of the proposed project. As shown in Table 4.2-10, under Scenario 11, the proposed project would provide net energy benefits through installation of solar panels, which would reduce the need for electrical grid capacity and additional energy resources from local utilities.

Table 4.2-10
Maximum Electricity Offset from Solar Panel Installation in the South Coast AQMD Region – Scenario 11

Year	Greatest Possible GWH/Year Generated
Year 1 – 2022	0
Year 2 – 2023	977
Year 3 – 2024	2,938
Year 4 – 2025	6,729
Year 5 – 2026	8,421
Year 6 – 2027	9,762
Year 7 – 2028	10,507
Year 8 – 2029	10,686
Year 9 – 2030	10,865
Year 10 – 2031	11,044
Total	**NA**

Notes: GWH: Gigawatt Hours. GWH generated is cumulative based on installations in the compliance year and prior compliance years.

4.2.3.2.5 Impacts to Electricity Providers

As stated, the total electricity consumption in SCE's service area in gigawatt-hours (GWh) was 105,162 GWh in 2019.[9] The total mid-electricity consumption in SCE's service area is forecasted to increase by approximately 10,000 GWh between 2018 and 2030.[10] The LADWP service area spans much of the urban areas of Los Angeles County with a total electricity consumption of 23,402 GWh in 2019.[11] Based on LADWP's 2017 Power Strategic Long-Term Resource Plan, LADWP forecasts that its total retail sales in the 2021–2022 fiscal year will be 22,613 GWh of electricity.[12]

While the proposed project could result in an increase in electricity demand, it is speculative to identify, for this EA, how the investor-owned utilities (IOUs) or publicly owned utilities (POUs)

[9] California Energy Commission, 2016, Electricity Consumption by Planning Area, http://www.ecdms.energy.ca.gov/elecbyplan.aspx, accessed December 16, 2020.

[10] California Energy Commission, April 19, 2018, California Energy Demand 2018-2030 Revised Forecast, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2017-integrated-energy-policy-report/2017-iepr, accessed December 17, 2020.

[11] California Energy Commission, 2016, Electricity Consumption by Planning Area, http://www.ecdms.energy.ca.gov/elecbyplan.aspx, accessed December 16, 2020.

[12] Los Angeles Department of Water and Power, December 2017, 2017 Power Strategic Long-Term Resource Plan, https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-p-doc?_adf.ctrl-state=ktddnyxka_4&_afrLoop=353019973497746, accessed December 17, 2020.

would accommodate the increased electricity demand as a result of implementation of the proposed project (see also Section, *Significant Environmental Effects Which Cannot be Avoided)*. Furthermore, it would be speculative to analyze potential impacts resulting from the development of any supporting infrastructure, including new solar/wind, energy storage, and other utility infrastructure conducted by the utility providers is outside the scope of this EA. Nonetheless, this EA incorporates by reference analysis of other, similar indirect impacts in Chapter 4.5, "Other Impact Areas." SCE, and other IOUs, forecast improvements to the electric grid to accommodate the forecast energy demand as part of the California Energy Commission's (CEC) biennial Integrated Energy Policy Report (IEPR). Such utility-scale projects outlined in the IEPR would be subject to project-level review, including review of energy impacts under CEQA, if needed to address increase in supply and transmission of electricity resources, depending on the energy forecasts anticipated by the individual utility provider.

This EA evaluates the direct and indirect effect of an overall increase in electricity use in the South Coast AQMD region, as shown in Table 4.2-11. As identified in the compliance scenarios above, the proposed project would result in a direct increase in electricity in the South Coast AQMD region energy grid. In addition, there is also opportunity to offset grid energy impacts through installation of solar panel systems (Scenario 11). To ensure that the utility providers are able to anticipate and meet an increase in demand for electricity in the southern California region associated with the transition to ZE trucks, South Coast AQMD has been coordinating with SCE (see Chapter 1) to ensures that the potential increase in electricity from transition to ZE trucks is planned for in future IEPR updates.

Table 4.2-11
Range of Potential Electricity Impacts/Benefits Associated with the Proposed Project

Scenario at Year 2031	GWH/Year
Scenario 6 – ZE Electric Trucks	847
Scenario 15 – High Efficiency Filtration Systems	746
Scenario 18 – ZE Yard Trucks	149
Scenario 11 – Solar Panel Installation	-11,044[a]

Notes: GWH: Gigawatt hours
[a] This represents a potential beneficial impact as the renewable electricity generated would offset demand of electricity from a utility provider.

The 2019 IEPR[13] addresses the sweeping changes to the energy system needed to address the state's GHG reduction goals and improve air quality, including SB 100 and SB 350, and acknowledges that ZE vehicles are critical to the state's clean air goals. The IEPR includes a 10-year forecast for electricity, natural gas use, and transportation fuels that inform planning for resource procurement and transmission investments in the California Public Utility Commission' (CPUC) Integrated Resource Planning process and the California Independent System Operator's

[13] California Energy Commission. 2020, May 6. Adopted 2019 Integrated Energy Policy Report, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report, accessed December 15, 2020.

(California ISO's) Transmission Planning Process, respectively. In addition, the CEC provides monthly peak demand forecasts in coordination with California ISO and the CPUC for evaluating resource adequacy. It is through these planning efforts that the local utility providers and the state ensure reliable electricity transmission and delivery. As such, utility providers are anticipating an increase in demand for electricity that aligns with the state's carbon neutrality goals. This increase in electricity from ZE truck use would directly replace the need for diesel fuel from a truck.

As part of its analysis of total statewide energy planning needs, the CEC has begun assessing the potential impacts to the electric grid from widespread deployment of battery-electric vehicles. As part of the development of the 2020 IEPR, CEC staff has included a scenario that explicitly evaluates the electric power needed if greater than 100,000 ZE trucks are deployed to assist in meeting 2031 ozone standards.[14] This analysis showed that the projected electricity demand from charging these trucks would be about 1,684 GWh in 2031, with a peak summer hourly load of about 164 MW for SCE, the region's largest utility.[15] For context this is only an approximately one percent increase in overall SCE electric load, but about a three time increase from what SCE is currently planning for electric vehicles in the 2020 IEPR. Based on a presentations conducted by the CEC in December 2020, CEC identified that the energy forecast in the 2019 IEPR assumed that EV energy charging results in about a one to two percent increase in electricity demand overall in the SCE region compared to the 'mid' case analysis. However, this is still within the range of expected demand as the additional load from ZE charging does not exceed CEC's modeled 'high' case. Because the proposed project would only result in a smaller subset of these 100,000+ trucks, the potential impacts to the electrical grid are expected to be even lower.[16, 17]

The 2019 IEPR also states that to address the growing EV population, the state will need to drastically increase the availability of charging infrastructure. Per the CEC Assembly Bill 2127 Electric Vehicle Charging Instructure Assessment Staff Report, preliminary modeling shows large areas of the grid within and throughout the state (e.g., Central Valley) has little to no excess capacity.[18] According the Staff Report, 157,000 (141,000 50 kW and 16,000 350 kW) DC fast chargers are needed to support the 180,000 battery-electric medium-duty and heavy-duty vehicles

[14] McBride, Bob. California Energy Commission. 2019, December 3. Electricity and Natural Gas Demand Forecast. "Exploratory Scenario: Energy Impacts of MD-HD ZEV Populations to Meet Federal Ozone Standard in South Coast Air Basin in 2031" Docket Number 20-IEPR-03. https://efiling.energy.ca.gov/getdocument.aspx?tn=235836

[15] Based on 100,000 Class 3 to Class 8 trucks, assuming pretty flat charging throughout the day.

[16] Garcia, Cary. California Energy Commission. 2019, December 2. Electricity and Natural Gas Demand Forecast. "California Energy Demand 2019 Revised Forecast, 2020-2030" Docket Number 19-IEPR-03./ https://efiling.energy.ca.gov/GetDocument.aspx?tn=230923

[17] Fugate, Nick. California Energy Commission. 2019, December 2. Electricity and Natural Gas. "Hourly Load Model, California Energy Demand 2019-2030 Revised Forecast" Docket Number 19-IEPR-03. https://efiling.energy.ca.gov/GetDocument.aspx?tn=230924

[18] California Energy Commission, January 2021, Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment: Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030. https://www.energy.ca.gov/programs-and-topics/programs/electric-vehicle-charging-infrastructure-assessment-ab-2127

year 2030 as projected under CARB's Draft Mobile Source Strategy.[19] The CEC is currently updating the state's Vehicle Grid Integration Roadmap to outline key steps in the implementation of technologies that can lower the costs for plug-in vehicles, recharging station owners, and utility customers in general.[20]

While the IEPR is considering the cumulative effect of N-79-20, which would ultimately shift California's transportation economy to carbon neutral energy sources, the proposed project would expedite this timeline for heavy duty trucks. South Coast AQMD is actively coordinating with SCE to ensure that they consider the potential cumulative effect of the proposed project. However, because the proposed project could expedite the need for infrastructure to support an increase in ZE sources, impacts associated with the with the need for new or substantially altered power utility systems, new and expanded infrastructure, and effects on peak and base period demands to accommodate the increase in demand from electric vehicles and refueling infrastructure by compliance year 2031 is conservatively considered a significant environmental effect of the proposed project.

4.2.3.3 Natural Gas

4.2.3.3.1 Purchase and Use of Natural Gas NZE Trucks

Scenarios 1, 2, 3, 4, 8 and 9 assume all 2,902 warehouse operators selected purchase and use of NZE trucks as the sole compliance option or part of their compliance option to meet their WPCO. Table 4.2-12 shows the increase in VMT and natural gas consumption associated with use and purchase of NZE trucks in compliance year 2031.

Table 4.2-12
Natural Gas Use from Purchase and Use of NZE Trucks – Scenario 1, 2, 3, 4, 8, and 9

Scenario	Year 2031	
	NZE VMT/Year	Diesel Gallon Equivalent/Year[a]
Scenario 1	634,183,368	124,349,680
Scenario 2	625,759,680	122,697,976
Scenario 3	622,854,960	122,128,424
Scenario 4	563,601,625	110,510,122
Scenario 8	690,714,128	109,637,163
Scenario 9	701,925,624	111,416,766

Notes: Unit: Rep
[a] Based on 5.1 miles per diesel gallon equivalent.[21]

[19] California Energy Commission, January 2021, Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment: Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030. https://www.energy.ca.gov/programs-and-topics/programs/electric-vehicle-charging-infrastructure-assessment-ab-2127.

[20] California Energy Commission, May 6, 2020, Adopted 2019 Integrated Energy Policy Report, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report, accessed December 15, 2020.

[21] South Coast Air Quality Management District, 2020, March 3, Draft WAIRE Menu Technical Report, Version 3/3/2020.

In 2017, a total of approximately 167.6 million diesel gallon equivalent (DGE) of natural gas was used in state for transportation.[22] This total includes the sum of liquefied natural gas (LNG) and compressed natural gas (CNG). Under the most conservative scenario, assuming all warehouse operators would select purchase and use of natural gas NZE trucks, the increase in natural gas consumption due to the proposed project over the course of the next ten years would amount to an increase of 65 to 74 percent over the 2017 demand. Use of natural gas would be offset by a decrease in diesel fuel. In addition, as it is an alternative fuel, its use would advance the goals of the State Alternative Fuels Plan.[23] However, because the proposed project could expedite the need for infrastructure to support an increase in demand for natural gas for transportation fuel, impacts associated with new or substantially altered natural gas utility systems and the expanded infrastructure needed to accommodate the increase in demand from NZE vehicles and refueling infrastructure by compliance year 2031 is conservatively considered a significant environmental effect of the proposed project.

4.2.3.4 Hydrogen Fuel

4.2.3.4.1 Hydrogen Fueling Station Installation and ZE (Hydrogen) Truck Purchase

Scenario 12 assumes all 2,902 warehouse operators selected installation of hydrogen fueling infrastructure and ZE truck acquisitions as the sole compliance option to meet their WPCO. Table 4.2-13 shows the greatest potential total increase in hydrogen fuel use associated with Scenario 12.

Table 4.2-13
Hydrogen Fuel Use from Purchase and Use of ZE Trucks – Scenario 12

Year	Hydrogen Fuel Kg of H_2/Year
Year 1 – 2022	0
Year 2 – 2023	0
Year 3 – 2024	2,330,200
Year 4 – 2025	4,777,520
Year 5 – 2026	7,607,920
Year 6 – 2027	15,233,160
Year 7 – 2028	17,946,200
Year 8 – 2029	20,478,920
Year 9 – 2030	21,098,680
Year 10 – 2031	22,365,040

Notes: Unit: Rep
[a] Highest natural gas consumption Scenarios 8 and 9.
[b] Highest natural gas consumption Scenarios 1 through 4.

[22] California Energy Commission. 2020, May 6. Adopted 2019 Integrated Energy Policy Report, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report, accessed December 15, 2020.

[23] California Energy Commission, May 6, 2020, Adopted 2019 Integrated Energy Policy Report, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report, accessed December 15, 2020.

As shown in Table 4.2-13, by year 2031, the proposed project would result in an increase of 22.4 million kilogram in hydrogen fuel consumption. In 2018, a total of 890,000 kilograms of hydrogen fuel was supplied in state for light-duty vehicles.[24] Under the most conservative scenario where all warehouse operators would install hydrogen fueling infrastructure to achieve their WPCO the proposed project would represent a substantial increase over 2018 state levels. While the proposed project would result in an increase in hydrogen fuel, it is speculative to identify the lifecycle impacts associated with the production of hydrogen fuel manufacturing and other infrastructure necessary for this EA (see Section 4.2.1.1, *Lifecycle Analysis*; see also Chapter 4, *Significant Environmental Effects Which Cannot be Avoided).* However, Section 4.2.4 and Chapter 4.5 provide an analysis of potential indirect impacts associated with alternative fuel infrastructure development. As that analysis makes clear, any utility-scale projects would be subject to project-level review, including review of energy impacts under CEQA, if needed to address increase in supply and production of hydrogen fuel resources.

Overall, while the proposed project would result in an increase in hydrogen demand, it would advance the state's goal of increasing the use of alternative fuels. However, the proposed project could expedite the need for infrastructure on an overall statewide basis to support an increase in hydrogen vehicles. According to CARB's 2020 Annual Evaluation of Fuel Cell Electric Vehicle Deployment & Hydrogen Fuel Station Network Development, significant effort would be required to meet the 200 fuel stations by year 2025 target set under EO B-48-18.[25] Thus, impacts associated with the expanded hydrogen fuel infrastructure needed to accommodate the increase in demand from hydrogen vehicles and refueling infrastructure by compliance year 2031 is conservatively considered a significant environmental effect of the proposed project.

4.2.4 Indirect Energy Impacts Associated with Construction of New Manufacturing Facilities, Recycling Facilities, and Infrastructure Improvements (Significance Criteria b, c, d and g)

Because the proposed project encourages and incentivizes the purchase and use of NZE and ZE vehicles, it could also indirectly result in the construction and operation of new manufacturing and recycling facilities, as well as infrastructure improvements to support the transition to NZE and ZE vehicles. These potential impacts were analyzed in CARB's Final EA for the ACT Regulation, and this EA incorporates that analysis by reference here.

The CARB's Final EA for the ACT Regulation identified that temporary increases in energy demand associated with construction and modification of facilities would include fuel consumption from use of heavy equipment, vehicles, and generators. Typical equipment that may be necessary for construction includes: graders, scrapers, backhoes, jackhammers, front-end loaders, water trucks, and dump trucks. While energy would be required to complete construction for any new or modified facilities or infrastructure projects, it would be temporary and limited in magnitude such that a reasonable amount of energy would be expended. Additionally, this

[24] California Energy Commission, May 6, 2020, Adopted 2019 Integrated Energy Policy Report, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report, accessed December 15, 2020.

[25] California Air Resources Board. September 2020, 2020 Annual Evaluation of Fuel Cell Electric Vehicle Deployment & Hydrogen Fuel Station Network Development. https://ww2.arb.ca.gov/sites/default/files/2020-09/ab8_report_2020.pdf.

temporary expenditure of energy is meant to, in the long-term, allow for a transition to vehicles that use less fossil fuels. Therefore, energy use during construction would not be wasteful, inefficient, or unnecessary. Short-term construction-related impacts on energy demand, associated with these indirect impacts are less than significant.

However, the CARB's Final EA for the ACT Regulation identified that this transition to NZE and ZE vehicles would warrant expansion of the energy infrastructure. Public utility companies would continue to improve infrastructure and implement strategies to diversify the grid to accommodate additional electricity demand from use of NZE and ZE vehicles. Any new or modified facilities, no matter their size and location would be required to seek local or State land use approvals prior to their development. In addition, part of the land use entitlement process for facilities proposed in California requires that each of these projects undergo environmental review consistent with the requirements of CEQA and the CEQA Guidelines. At this time, the specific location and type of construction needed is not known and would be dependent upon a variety of market factors that are not within the control of CARB or South Coast AQMD including: economic costs, product demands, environmental constraints, and other market constraints. Thus, the specific impacts to energy service providers cannot be identified with any certainty, and individual compliance responses could potentially result in significant environmental impacts for which it is unknown whether mitigation would be available to reduce the impacts.

PROJECT IMPACTS – CONCLUSION: Based on the preceding analysis, the overall conclusion is that energy impacts for the proposed project are less than significant during construction. However, the proposed project could expedite the need for expanded electricity, natural gas, and hydrogen fuel infrastructure, impacts of which are conservatively considered significant. The proposed project is part of a larger transition from diesel and petroleum to alternative energy for the transportation sector. This transition itself provides energy benefits. Further, it should be noted that the energy analysis is a conservative, 'worst case' analysis based on the WPCO scenarios if all warehouse operators selected the scenario as the sole compliance option. As a result, the actual energy use would range depending on the WPCO selected and the actual construction and operational impacts are not expected to be as great as estimated in this EA.

PROJECT MITIGATION MEASURES: The analysis indicates that energy impacts during the construction phase are less than significant. However, the proposed project expedites the need for expanded electricity infrastructure in addition to increasing on a statewide basis, the number of natural gas and hydrogen fuel stations. For electricity, SCE plans for and accommodates the need for electrical grid infrastructure expansions and improvements through the IEPR and is forecasting an increase in energy demand from ZE. While the IEPR is considering the cumulative effect of N-79-20, which would ultimately shift California's transportation economy carbon neutral energy sources, the proposed project would expedite this timeline for heavy duty trucks. South Coast AQMD is actively coordinating with SCE to ensure that they consider the potential cumulative effect of the proposed project. However, the authority to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with this EA does not attempt to address project-specific details of mitigation. As such, there is inherent uncertainty in the degree of mitigation that may ultimately by implemented to reduce potentially significant impacts. As for hydrogen fueling infrastructure, expansion of fueling stations statewide is supported through AB 8 and EO B-48-18, and state programs such as CARB's LCFS Hydrogen Refueling Infrastructure credit provision and the CEC's Grand Funding Opportunity 19-602 grant solicitation. Expansion

of natural gas fueling infrastructure is supported through CEC's Clean Transportation Program. While impacts could be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, South Coast AQMD does not have the authority to implement mitigation related to new or modified energy infrastructure. No additional mitigation measures are feasible that would prevent the expedited need for electricity infrastructure and natural gas and hydrogen fueling stations to accommodate the demand of these alternative energy sources created by the proposed project.

REMAINING IMPACTS: Energy impacts during the construction phase are less than significant. The proposed project's long-term impacts on energy infrastructure is significant and unavoidable.

CUMULATIVE IMPACTS: The preceding analysis concluded that energy impacts from construction activities would be less than significant as a result of implementing the proposed project. However, as stated above, while there are ongoing planning efforts and programs in place to expand hydrogen and natural gas fueling infrastructure in addition to electricity infrastructure, the proposed project would contribute to expediting the need for expansion of the various infrastructure for these energy sources. Therefore, the proposed project's cumulative contribution to impacts on energy infrastructure is cumulatively considerable pursuant to CEQA Guidelines Section 15064(h)(1) and considered significant and unavoidable. However, it should be noted that the proposed project is part of a larger transition from diesel and petroleum to alternative energy for the transportation sector. This transition itself provides energy benefits. Furthermore, the energy analysis is a conservative, 'worst case' analysis based on the WPCO scenarios if all warehouse operators selected the scenario as the sole compliance option. As a result, the actual energy use would range depending on the WPCO selected and the actual construction and operational impacts are not expected to be as great as estimated in this EA.

4.3 HAZARDOUS MATERIALS AND SOLID AND HAZARDOUS WASTE

Under the proposed project, warehouse operators may earn WAIRE Points by acquiring and/or using ZE trucks and ZE yard trucks, which will be referred to collectively as electric vehicles (EV) for this EA. WAIRE Points may also be earned by installing and using solar panel systems. All of these compliance actions could increase the use of batteries and fuel cells during the operational phase of the proposed project, and these batteries and fuel cells would need to be disposed of or recycled. Battery and fuel cell replacement could therefore have impacts associated with hazardous waste and recycling capacity for used batteries. The Initial Study for the proposed project concluded that impacts associated with spent batteries and fuel cells would be less than significant and would not be discussed further in the EA. However, during the public review period for the Notice of Preparation and Initial Study, several public comments were received that related to the increased rates of disposal of batteries and hydrogen fuel cells, the potential increase in hazards to the public or the environment, and the increased need for facilities capable of receiving these batteries and fuel cells. As such, the topic of spent batteries and fuel cells generated during the operational phase is being carried forward to the EA for further discussion.

Furthermore, the 2016 AQMP EIR concluded that the accidental release of Liquefied Natural Gas (LNG) during transport could cause significant adverse hazards impacts even after implementation of the mitigation measures included in the EIR. Since the proposed project could result in the increased use of NZE trucks, the use and transport of LNG could also increase. The 2016 AQMP EIR also concluded that due to the high volume of vehicles and equipment that need to be retired in a short timeframe and due to the uncertainty of their outcome, a potentially significant impact would result due to implementation of the 2016 AQMP. Furthermore, since the extent and timing of construction needed to implement the 2016 AQMP is not known, the potential to exceed landfill capacities in the short term was found to be significant. This discussion is incorporated by reference here and impacts associated with LNG, scrapped vehicles and equipment, and construction waste are included in this EA for further discussion.

In addition, the proposed project could indirectly result in the construction and operation of new manufacturing and recycling facilities, as well as grid improvements, necessary to meet the increased demand for NZE and ZE vehicles and provide the energy and infrastructure to power them. These potential impacts were analyzed in CARB's Final EA for the ACT Regulations, and this EA incorporates that analysis by reference here. Because these potential impacts are indirect, and because the circumstances surrounding any such future development are unknown, the potential hazardous materials and solid and hazardous waste impacts associated with this development are discussed separately from the analysis of the proposed projects' direct impacts.

It should be noted that hazards to the public or the environment due to the disposal of spent batteries was discussed under the Hazards and Hazardous Materials section of the Initial Study. Impacts to the capacity of local waste infrastructure was discussed in the Solid and Hazardous Waste Section of the Initial Study. These two impact topics are being analyzed jointly in this section of the EA.

4.3.1 Significance Criteria

The proposed project's impacts from battery and fuel cell disposal and recycling will be considered significant if the proposed project:

a) Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b) Creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c) Generates solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impairs the attainment of solid waste reduction goals.

4.3.2 Hazards Associated with Routine Transport, Use, or Disposal of Batteries and Fuels Cells (Significance Criteria)

Some batteries contain toxic materials. As a result, the increased use of batteries may result in an incremental increase in hazardous waste impacts. Environmental impacts could occur if batteries were disposed of in an unsafe manner, such as illegal dumping or by disposal in an unlined landfill. The EA provides 'book-ends' of the range of potential environmental consequences associated with the proposed project to provide a framework for understanding the greatest potential impacts. Some of the compliance actions taken pursuant to the proposed project could increase the generation of spent batteries and fuel cells in South Coast AQMD's jurisdiction and subsequently the demand for specialized disposal facilities and landfills under Scenario 6 (ZE trucks), Scenario 11 (solar panel systems), Scenario 12 (hydrogen trucks), and Scenario 18 (ZE yard trucks). The analysis in this EA has taken the WAIRE Points scenarios approach outlined in Section 4.1 to provide a conservative analysis of potential impacts of the proposed project.

The most common battery currently used in gasoline and diesel fueled vehicles is the lead acid battery found in conventional automobiles and trucks. These batteries are disposed of and processed by the lead recycling industry. ZE vehicles operate with different battery types than the lead-acid battery. The most common battery types available for zero emission vehicles are lithium ion (Li-ion) batteries. EVs use nickel metal hydride (NiMH) and nickel cadmium (NiCad) batteries to a lesser extent. The most common type of fuel cell for vehicle applications is the polymer electrolyte membrane (PEM) fuel cell. For solar panels, lead-acid based batteries and Li-ion batteries are the most commonly used for the type of applications associated with the proposed project. Implementation of the proposed project would lower the demand for gasoline and diesel fueled trucks and therefore decrease the use of lead-acid batteries.

Lead acid batteries have a three to five year life span and need to be periodically replaced. Electric and hybrid vehicle batteries last longer than lead acid batteries. For example, most of the batteries in electric vehicles have warranties for 10 years or 150,000 miles. Therefore, the shift from conventional to ZE vehicles would result in a decrease in the amount of spent batteries that require disposal or recycling. However, it is speculative to estimate the number of lead acid, NiMH, NiCad, Li-ion, or PEM fuel cell batteries that would occur as a result of implementation of the proposed project since it is uncertain how many new ZE vehicles will be purchased to comply with the proposed project.

Furthermore, components of NiMH batteries are typically not disposed of at landfills, and whatever cannot be recycled is typically consumed as the fuel for the furnaces in the recycling process. The primary metals recovered during recycling are nickel, copper, and iron. Most industrial nickel is recycled, due to the relatively easy retrieval of the magnetic element from scrap using electromagnets, and its high monetary value. Some principal rare earth metals, like neodymium and lanthanum, are also recovered.[1] Additionally, improper disposal of NiMH batteries poses less of an environmental hazard than that of lead acid or NiCad batteries because NiMH batteries do not contain lead and cadmium which are toxic.

Because Li-ion batteries have the potential to collect and discharge electricity for another seven to 10 years after being taken off the roads and stripped from vehicles, destructive recycling can be postponed.[2] Battery manufacturers have projected that Li-ion battery packs will still be able to operate at about 80 percent of capacity at the time they must be retired from automotive use. For example, several major power utilities are working with companies such as General Motors, Ford, Toyota, and Nissan to explore the use of Li-ion batteries for the stationary storage of power produced during off peak periods by wind turbines and solar generation stations. The Li-ion battery packs are also being tested as backup power storage systems for retail centers, restaurants, and hospitals, as well as residential solar panel systems. Automobile companies are partnering with battery, recycling, and electronics firms to figure out and develop post automotive markets and applications for Li-ion battery packs.[3] With the opportunity for other non-automotive aftermarket uses, Li-ion battery recycling may not be immediately necessary when compared to recycling of lead acid batteries.

Additionally, Li-ion batteries are between 70 and 100 percent recyclable, depending on the particular chemistry of the batteries. There are a number of different types of Li-ion batteries in use, and more are being developed. The components of Li-ion batteries that cannot be recycled are mostly consumed as fuel in the furnaces that are used to melt down the metals, which include cobalt, copper, iron, nickel, manganese, and lithium.[4]

There are only a few key companies serving the North America market with the established technology and capacity to process NiMH, Ni-Cad, and Li-ion batteries. Umicore, Glencore, Retriev Technologies (previously known as Toxco), and Battery Solutions recycle both NiMH and Li-ion batteries. Inmetco recycles NiMH batteries while LiCycle recycles Li-ion batteries. Retriev Technologies also recycles NiCad batteries.

Umicore, while based in Belgium as the leading metals recycling company in Europe, is expanding their operations in the United States. Retriev Technologies is the only commercial company in

[1] Edmunds, August 25, 2014, What Happens to EV and Hybrid Batteries? Going Green with Battery Recycling, https://www.edmunds.com/fuel-economy/what-happens-to-ev-and-hybrid-batteries.html, accessed December 21, 2020.

[2] Bloomberg BusinessWeek, June 27, 2018, Where 3 Million Electric Vehicle Batteries Will Go When They Retire, https://www.bloomberg.com/news/features/2018-06-27/where-3-million-electric-vehicle-batteries-will-go-when-they-retire, accessed December 21, 2020.

[3] Edmunds, August 25, 2014, What Happens to EV and Hybrid Batteries? Going Green with Battery Recycling, https://www.edmunds.com/fuel-economy/what-happens-to-ev-and-hybrid-batteries.html, accessed December 21, 2020.

[4] State of California, California Code, Health and Safety Code - § 25507, January 1, 2019, Section 4.6.4.1, Spent Batteries from Electric Vehicles, pages 4.6-8 through 4.6-12 and Section 4.4.4.2.4, Electric Vehicles, pages 4.4-13 through 4.4-17 http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=25507

North America with the capacity to recycle Li-ion batteries.[5] Retriev Technologies was awarded a federal grant to build and operate an advanced lithium battery recycling facility at their existing Lancaster, Ohio site.[6] The Retriev Technologies facility appears to be the recycler that is most widely used by companies that sell hybrid vehicles and ZE vehicles in North America when batteries reach their end of useful life. The facility uses a proprietary system to primarily recycle Ni-MH batteries. Retriev Technologies also currently handles small volumes of Li-ion battery packs as it works with automakers to develop the best recycling processes.[7] Sudbury Integrated Nickel Operations (INO), a subsidiary company of global mining company Glencore, operates a large nickel and copper smelter in Sudbury, Ontario. Sudbury INO has historically processed mostly small portable batteries but is now handling large format EV batteries as well. Battery Solutions separates Li-ion battery components into three end products, cobalt and lithium salt concentrate; stainless steel; and copper, aluminum, and plastic. All of these products are sold to manufacturers to be reused in new products. For NiMH batteries, Battery Solutions removes the plastics from the cell portion prior to the recycling process. The cells go through a drying process to remove moisture from the cell. Once the cells are dried, they become a valuable feedstock for the stainless steel and/or alloy manufacturing industries. The metals and plastic are then returned to manufacturers to be reused in new products. Inmetco, located in Ellwood City, Pennsylvania, recycles nickel, chrome, and iron from NiMH batteries.[8] Li-Cycle recovers 95% or more of all materials found in Li-ion batteries and can process all types of lithium-ion batteries used in electronic devices, e-mobility, electric vehicles and other energy storage applications. The company has two hubs, one in Ontario, Canada and a second in Rochester, New York.[9]

If spent EV batteries exceed the capacity of recycling facilities, the batteries could be illegal dumped or disposed of in an unlined landfill leading to environmental impacts. However, many manufacturers offer incentives to prevent the illegal disposal of NiMH, NiCad and Li-ion batteries. For example, most car manufacturers offer a program to take back used or damaged battery packs, including Toyota and Nissan.[10] Additionally, Federal and state laws have created incentives and requirements for the recycling and safe transport, use, or disposal of batteries as follows:

- The federal Resource Conservation and Recovery Act (RCRA) gave the U.S. EPA the authority to control hazardous waste from the ˈcradle-to-grave.ˈ Under Subtitle C of RCRA, hazardous waste must be properly identified, stored, transported, treated, and disposed.

[5] CalEPA, 2021, Lithium-ion Car Battery Recycling Advisory Group, AB 2832 Advisory Group: Draft Work Plan, https://calepa.ca.gov/climate/lithium-ion-car-battery-recycling-advisory-group/draft-workplan-for-discussion-on-12-14-20-by-the-lithium-ion-car-battery-recycling-advisory-group/, accessed January 17, 2021.

[6] Edmunds, August 25, 2014, What Happens to EV and Hybrid Batteries? Going Green with Battery Recycling, https://www.edmunds.com/fuel-economy/what-happens-to-ev-and-hybrid-batteries.html, accessed December 21, 2020.

[7] South Coast Air Quality Management District, January 2017, Final Program Environmental Impact Report for the 2016 Air Quality Plan, http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf, accessed December 21, 2020.

[8] Kelleher Environmental, September 2019, Research Study on Reuse and Recycling of Batteries Employed in Electric Vehicles, https://www.api.org/~/media/Files/Oil-and-Natural-Gas/Fuels/Kelleher%20Final%20EV%20Battery%20Reuse%20and%20Recycling%20Report%20to%20API%2018Sept2019%20edits%2018Dec2019.pdf, accessed January 5, 2021.

[9] Cision PR Newswire, November 18, 2020, Li-Cycle Closes Series C Round, https://www.prnewswire.com/news-releases/li-cycle-closes-series-c-round-301175830.html, accessed January 9, 2021.

[10] Edmunds, August 25, 2014, What Happens to EV and Hybrid Batteries? Going Green with Battery Recycling, https://www.edmunds.com/fuel-economy/what-happens-to-ev-and-hybrid-batteries.html, accessed December 21, 2020.

- California's Hazardous Waste Control Act created the state's Hazardous Waste Management Program. The act is implemented by regulations contained in Title 26 of the California Code of Regulations (CCR), which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements.[11]
- The federal Battery Act promulgated in 1996 requires that each regulated battery be labeled with a recycling symbol. NiCad batteries must be labeled with the words "NiCad" and the phrase "Battery must be recycled or disposed of properly."
- The Universal Waste Rule requires that spent batteries exhibiting hazardous waste characteristics that are not recycled need to be managed as hazardous waste. This includes Li-ion, NiMH, and NiCad batteries.

In addition, the batteries that would power EVs and solar panels are packaged in battery packs and cannot be as easily disposed of as a single 12-volt conventional vehicle battery, which some electric cars also have. Since NiMH and Li-ion in batteries have a larger size and heavier weight (over 100 pounds) it makes them more difficult to handle and transport for unauthorized disposal.

EVs do not require the various oil and gasoline filters that are required by vehicles using internal combustion engines. Furthermore, EVs do not require the same type or amount of engine fluids (oil, antifreeze, etc.) that are required by vehicles using internal combustion engines. Because of the widespread use and volume of waste oil, a portion of waste oil is illegally disposed of via sewers, in waterways, on land, and disposed in landfills. Waste oil that is illegally disposed can contaminate the environment (via water, land, or air). Since electric motors do not require motor oil as a lubricant, replacing internal combustion engines with electric engines will eliminate the impacts of motor oil use and disposal. Release of contaminants due to engine oil that burns up in or leaks from engines, or due to the burning of recovered engine oil for energy generation will also be reduced. Additional use of EVs is expected to have a beneficial environmental impact by reducing the amount of motor oil used, recycled, potentially illegally disposed, or washed into storm drains and ending up in the ocean.[12]

PEM fuel cells contain no poisonous or hazardous materials that may impact the environment upon disposal. Platinum group metals (PGMs) are the main electrocatalysts used in PEM stacks. Given their economic relevance, PGMs such as platinum, iridium and ruthenium are typically recycled.

Therefore, for the reasons described above and consistent with the analysis in the March 2017 Final Program EIR for the 2016 AQMP, impacts from the generation of hazardous solid waste associated with the use of EVs and solar panel systems that occur as a result of compliance with the proposed project would be less than significant.

[11] South Coast Air Quality Management District, January 2017, Final Program Environmental Impact Report for the 2016 Air Quality Plan, http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf, accessed December 21, 2020.

[12] South Coast Air Quality Management District, January 2017, Final Program Environmental Impact Report for the 2016 Air Quality Plan, http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf, accessed December 21, 2020.

4.3.3 Hazards Associated with the Rupture of Liquified Natural Gas Tanks during Storage Transportation (Significance Criteria b)

LNG is non-toxic, flammable, disperses more readily in air than conventional fuels, and has more rigorous standards for transportation. It is expected that the increased use of NZE vehicles due to the implementation of the proposed project could increase facilities that receive LNG from local suppliers located in the Basin. Deliveries of LNG would be made by tanker truck via public roads. LNG trucks are double-walled aluminum and are designed to withstand accidents during the transport of LNG. However, accidental releases may still occur. Four accidental release scenarios were identified in the 2016 AQMP EIR as having major consequences and the adverse impacts from the four scenarios were determined (refer to section 4.3.4.7.1 of the 2016 AQMP EIR pp. 4.3-37). During transportation of LNG, it was estimated that the adverse impacts from these release scenarios would extend 0.3 mile. Because sensitive receptors may be within this distance, the accidental release of LNG during transport could cause significant adverse hazards and the increased storage and transport of LNG may substantially alter existing transportation hazards associated with mobile source fuels. Consequently, increased usage of LNG due to implementation of the proposed project could generate significant adverse hazard impacts during routing storage and transport.

4.3.4 Operational Impacts in Excess of the Capacity of Local Recycling Infrastructure (Significance Criteria c)

The increased spent battery and fuel cell waste stream could trigger the need for additional recyclers. As described previously, it not possible to identify the incremental increase in the number of EV batteries caused by the proposed project. Batteries used by EVs would either be reused in a secondary market (e.g., battery storage) or recycled when batteries reach their end of life.[13] As identified above, Umicore, Glencore, Inmetco, Li-Cycle, and Retriev Technologies (previously known as Toxco) have the technology to recycle NiMH, NiCad, and Li-ion batteries in the nation.[14] The limited number of existing Li-ion battery recyclers and the fact that these existing recyclers have plans to expand battery recycling, highlights that the recycling industry is only now beginning to expand operations to accommodate EV batteries reaching their end-of-life. The cumulative burden of EV waste is substantial given the growth trajectory of the EV market.[15] Unlike the solid waste sector, which is required to plan for or adequate safe disposal capacity for a minimum of 15 years or plan for new and/or expanded facilities pursuant to Assembly Bill 939, no such requirement currently exists for the recycling industry.

To meet the increased demand of refurbishing or reusing batteries and fuel cells, new facilities or modifications to existing facilities would need to be constructed to accommodate recycling

[13] Harper, Gavin; Sommerville, Roberto; Kendrick, Emma; Driscoll, Laura; Slater, Peter; Stolkin, Rustam; Walton, Allan; Christensen, Paul; Heidrich, Oliver; Lambert, Simon; Abbott, Andrew; Ryder, Karl; Gaines, Linda; & Anderson, Paul (Harper *et. al.*). 2019, November 6. "Recycling Lithium-ion Batteries from Electric Vehicles." Nature 575, 75–86 (2019). https://www.nature.com/articles/s41586-019-1682-5

[14] South Coast Air Quality Management District, January 2017, Final Program Environmental Impact Report for the 2016 Air Quality Plan, http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf, accessed December 21, 2020.

[15] Harper, Gavin; Sommerville, Roberto; Kendrick, Emma; Driscoll, Laura; Slater, Peter; Stolkin, Rustam; Walton, Allan; Christensen, Paul; Heidrich, Oliver; Lambert, Simon; Abbott, Andrew; Ryder, Karl; Gaines, Linda; & Anderson, Paul (Harper *et. al.*). 2019, November 6. "Recycling Lithium-ion Batteries from Electric Vehicles." Nature 575, 75–86 (2019). https://www.nature.com/articles/s41586-019-1682-5

activities. In the long term, implementation of the proposed project along with State standards such as the Sustainable Communities and Climate Protection Act (SB 375) and CARB's Advanced Clean Cars program and Truck and Bus Regulation would result in a shift away from petroleum-based fuels toward hydrogen or electric. California is moving in the direction of electrifying its transportation and energy systems and it is anticipated that this would result in a corresponding increase in the market demand for recycling facilities. As more EVs and solar panel systems are introduced to the transportation and energy sector increased economic incentives are anticipated to drive modifications to existing infrastructure.

However, there are no federal, state, or local regulations that require the recycling industry to forecast the capacity of infrastructure needed to meet the demand. While CalEPA formed the Lithium-Ion Car Battery Recycling Advisory Group in 2019 to advise the Legislature on policies pertaining to the recovery and recycling of lithium-ion vehicle batteries, recommendations are still forthcoming. The group is required to submit policy recommendations on or before April 1, 2022. The policy recommendations are intended to address the end-of-life issues with a goal of ensuring that "as close to 100 percent as possible of lithium-ion vehicle batteries in the state are reused or recycled."[16] Therefore, while it is expected that efforts are underway to ensure adequate infrastructure for the reuse, recycling, or disposal of lithium-ion batteries, implementation of the proposed project could result in the generation of spent batteries and fuel cells that exceed the current capacity of local recycling infrastructure and impacts are potentially significant.

4.3.5 Operational Impacts in Excess of the Capacity of Local Landfills (Significance Criteria c)

Implementation of the proposed project could result in the early retirement of equipment such as on-road trucks and vehicles, off-road vehicles, gasoline-fueled engines, and diesel-fueled engines. Impacts could occur since the older equipment or vehicle parts would be taken out of service in the Basin and scrapped and disposed of in landfills. Approximately 80 percent of a vehicle can be recycled and reused in another capacity. During the scrapping process, batteries, catalytic converters, tires, and other recoverable materials (e.g., metal components) are removed and the metal components of the vehicle are shredded. The shredded material is then sent for recovery of metal content. Therefore, the amount of solid waste landfilled as a result of the proposed project would be relatively small since most of the parts being replaced have commercial value as scrap metal. Currently, there are a limited number of vehicles and parts that can be scrapped per year because of the limited number of scrapping and recycling facilities in South Coast AQMD's jurisdiction. It is expected that gasoline and diesel engines could also be recycled for metal content or rebuilt and sold to other areas. It is expected that parts and equipment would be scrapped in the near future, regardless of the proposed project, as they are older vehicles or have older components. The primary solid waste impact is expected to be the accelerated replacement and disposal of equipment and parts before the end of their useful life.

Further, the proposed project does not mandate that older vehicle, engines, or other equipment be scrapped. WAIRE Menu items that would require new equipment will generally require that retirement occur when the life of the old equipment is exhausted, and the new equipment is put into service. Alternatively, some measures can encourage advanced deployment of cleaner

[16] CalEPA, 2021, Lithium-ion Car Battery Recycling Advisory Group, AB 2832 Advisory Group: Draft Work Plan, https://calepa.ca.gov/climate/lithium-ion-car-battery-recycling-advisory-group/draft-workplan-for-discussion-on-12-14-20-by-the-lithium-ion-car-battery-recycling-advisory-group/, accessed January 17, 2021.

technologies ahead of natural retirement for the benefit of air quality. Based on the above, scrap metals from vehicle and engine replacements are expected to be recycled and not disposed of in landfills. Any small increase that may occur from miscellaneous parts is expected to be within the permitted capacity of landfills within the Basin so that no significant impacts would be expected.

The California Integrated Waste Management Act of 1989 (AB 939) requires cities and counties in California to reduce the amount of solid waste disposed in landfills and transformed by 25 percent by 1995 and by 50 percent by 2000, through source reduction, recycling, and composting activities. Subsequent legislation has been adopted that mandates a 50 percent diversion requirement to be achieved every year. SB 1016 (Wiggins) – Diversion: Alternative Compliance System (effective January 1, 2009) moves CalRecycle from the previously existing solid waste diversion accounting system to a per capita disposal based system. SB 1016 did not change the 50 percent requirement in AB 939, but measures it differently. Compliance is the same under the new system as it was under the old system. To evaluate compliance, CalRecycle looks at a jurisdiction's per capita disposal rate as an indicator of how well its programs are doing to keep disposal at or below a jurisdiction's unique 50 percent equivalent per capita disposal target. The 50 percent equivalent per capita disposal target is the amount of disposal a jurisdiction would have had during the base period had it been at exactly a 50 percent diversion rate. Compliance is based on CalRecycle evaluating whether a jurisdiction is continuing to implement the programs it chooses and is making progress in meeting its target. In 2014, California's statewide disposal was 31.2 million tons and population was 38.4 million residents. This resulted in a per resident disposal rate of 4.5 pounds/resident/day. The diversion rate equivalent was 65 percent. Almost all (99 percent) of California's solid waste was disposed of in landfills in California, while approximately one percent was exported to landfills out of state. An additional 0.82 million tons were transformed at three permitted waste-to energy plants in California, but not included in the disposal rate estimate because of provisions in the law that allow limited diversion credit for transformation. Many cities and counties have met the 20 and 50 percent waste reduction goals of AB 939 prior to the adoption of the 50 percent equivalent per capita disposal target associated with SB 1016. For the counties within the Basin as well as statewide, the targets are still slightly short of meeting the diversion standards.[17] The generation of additional waste associated with implementation of the proposed project could impact the abilities of cities and counties to further reduce wastes. However, as discussed above the increase in solid waste is expected to be diverted to a landfill is small and many of the waste streams are recyclable.

The U.S. EPA has a policy to ensure that emission reductions programs seeking credit in the SIP are quantifiable, surplus (*not already required*), permanent, and enforceable. Thus, it is expected that when older vehicles are scrapped, they are put out of service permanently and there are mechanisms in place to ensure that this requirement is enforced. Even with the ability to recycle metals from vehicles, there are no guarantees that vehicles will continue to be scrapped in the future, especially if the market is saturated with a high number of vehicles being sought for turnover. So, in an abundance of caution, the potential solid and hazardous waste impacts from the retirement of equipment is concluded to be significant.

[17] South Coast Air Quality Management District, January 2017, Final Program Environmental Impact Report for the 2016 Air Quality Plan, http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf, accessed December 21, 2020.

4.3.6 Indirect Hazardous Materials and Solid and Hazardous Waste Impacts Associated with Construction of New Manufacturing Facilities, Recycling Facilities, and Infrastructure Improvements

Because the proposed project encourages and incentivizes the purchase and use of NZE and ZE vehicles, it could also indirectly result in the construction and operation of new manufacturing and recycling facilities, as well as infrastructure improvements to support the transition to NZE and ZE vehicles. These potential impacts were analyzed in CARB's Final EA for the ACT Regulations, and this EA incorporates that analysis by reference here. In summary, CARB's analysis found that short-term construction and long-term operational effects associated with the need for new manufacturing and recycling facilities, as well as infrastructure improvements to support the transition to NZE and ZE vehicles, would create significant impacts regarding hazards and hazardous materials through the routine transport, use, or disposal of hazardous materials.

PROJECT IMPACTS – CONCLUSION: Based on the preceding analysis, the overall conclusion is that hazardous waste impacts associated with routine transport, use, or disposal of batteries are less than significant during operation. However, the proposed project could result in a substantial increase in the batteries that would exceed the capacity of the existing recycling infrastructure. Furthermore, hazards associated with the accidental release of LNG during transportation is potentially significant and waste related to construction and scrapped vehicle and equipment could exceed the capacity of local landfill. In addition, the proposed project could indirectly result in the construction of new manufacturing facilities, recycling facilities, and infrastructure improvements to support the transition to NZE and ZE vehicles, which would create significant impacts regarding hazards and hazardous materials through the routine transport, use, or disposal of hazardous materials.

PROJECT MITIGATION MEASURES: To ensure that the recycling industry is able to accommodate the substantial cumulative increase in the number of EV batteries disposed of as a result of the transition to a carbon neutral economy, battery recyclers would need to forecast the increased demand for EV battery recycling in relation to the capacity of recyclers. However, no such requirement is in place for the recycling industry. The requirement to mandate that the solid waste sector, and the recycling industry in particular, identify and plan for the potential increase in this waste stream is outside of the jurisdiction of South Coast AQMD. Thus, there are no available mitigation measures that could reduce the impacts from the increase in battery recycling to the capacity of the existing recycling infrastructure to less than significant.

The transportation of LNG fuel is concluded to create a significant hazardous material impact from exposure to overpressure and destruction of the LNG storage tank. The 2016 AQMP EIR identified the following measures that would reduce impacts from storage and use of LNG fuel that would be required by local fire departments.

- Install secondary containment (e.g., berms).
- Install valves that fail shut.
- Install emergency release valves and barriers around LNG storage tanks to prevent the physical damage to storage tanks or limit the release of LNG from storage tanks.
- Perform integrity testing of LNG storage tanks to assist in preventing failure from structural problems. Construct a containment system to be used for deliveries during off-loading operations

However, these measures are outside of the South Coast AQMD's jurisdiction to impose, and there are no feasible mitigation measures to reduce this significant impact. Additionally, no mitigation measures were included in the 2016 AQMP EIR for the impacts of construction waste and scrapped vehicles and equipment to the capacity of local landfills.

Furthermore, CARB's Final EA for the ACT Regulation noted that indirect impacts could be reduced to a less-than-significant level by mitigation measures that can and should be implemented by federal, state, and local lead agencies including land use and/or permitting agency conditions of approval. However, these mitigation measures are beyond the authority of South Coast AQMD and not within its purview.

REMAINING IMPACTS: There are no available mitigation measures that could reduce the impacts from the increase in battery recycling on the existing recycling infrastructure capacity to less than significant. Therefore, impacts to the battery recycling infrastructure are significant and unavoidable. In addition, there are no available mitigation measures that could reduce the impacts associated with the accidental release of LNG during transport, the impact of construction waste and scrapped vehicles and equipment on landfill capacity, and the construction of new manufacturing facilities, recycling facilities, and infrastructure improvements to support the transition to NZE and ZE vehicles.

CUMULATIVE IMPACTS: The proposed project would increase the number of non-lead acid batteries such as NiCad, NiMH, and Li-ion types and fuel cells in the South Coast AQMD region. At the end of their useful life, these batteries and fuel cells would need to be recycled or disposed, resulting in an increase in hazardous waste disposal. The Mercury Containing and Rechargeable Battery Management Act of 1996 (Battery Act) facilitates the increased collection and recycling of NiCad batteries, and the disposal of batteries would be conducted in compliance with the Resource Conservation and Recovery Act (RCRA). Under the RCRA batteries can be disposed of as universal waste and need to follow the regulations of the Universal Waste Rule (see Chapter 3, Hazards and Hazardous Materials, of this EA). Spent lead acid batteries that are destined for reclamation would be regulated by 40 CFR Part 266, Subpart G. In California, consumers must recycle all single-use batteries, or take them to a household hazardous waste disposal facility, a universal waste handler (e.g. storage facility or broker), or an authorized recycling facility. Additionally, consumers have to follow battery disposal requirements for lithium batteries.[18] Existing battery recovery and recycling programs have limited the disposal of batteries in landfills. For example, the recycling of lead acid and NiCad batteries is already a well-established activity. Further penetration of ZE trucks and ZE yard trucks is expected to result in a reduction in the use of lead acid and NiCad batteries. Implementation of the proposed project would be expected to result in an increased use of electric vehicles which use NiMH batteries, Li-ion batteries, and PEM fuel cells instead of lead acid and NiCad batteries. NiMH, Li-ion batteries, and PEM fuel cells generally contain materials that have high economic value and, therefore, high demand for the recyclable materials. The preceding analysis concluded that impacts associated with routine transport, use, or disposal of batteries would be less than significant as a result of implementing the proposed project. Thus, there are no significant adverse cumulative impacts.

However, the proposed project could result in a substantial increase in the number of batteries that would need to be recycled and exceed the capacity of the existing recycling infrastructure. This

[18] Call2Recycle. 2020, Accessed December 15. Recycling Laws by State, California, https://www.call2recycle.org/recycling-laws-by-state/#California

increase in demand would cumulatively contribute to the increase in demand for battery recycling as a result of transition to a carbon neutral economy, in accordance with the State's GHG reduction goals. Currently, there are no federal, state, or local regulations that require the recycling industry to forecast the capacity of infrastructure needed to meet the demand. There are no mitigation measures that would ensure that battery recyclers can accommodate the proposed project's and cumulative increase in volume of EV batteries. Therefore, the proposed project's cumulative impact associated with the capacity of battery recycling infrastructure to accommodate the additional demand is considered significant and unavoidable.

Furthermore, the 2016 AQMP EIR concluded that the impacts from LNG tank rupture during transport, construction waste, and scrapped vehicles and equipment, is expected to remain significant. In addition, the proposed project could indirectly result in the construction of new manufacturing facilities, recycling facilities, and infrastructure improvements to support the transition to NZE and ZE vehicles. As CARB concluded in its EA, the hazardous waste impacts and impacts to recycling facility capacity associated with that development could be significant. Therefore, the project and cumulative impacts of the proposed project associated with this development is significant and unavoidable.

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4.4 TRANSPORTATION

The overall purpose of the proposed project is to reduce NOx and PM emissions associated with warehouse operations within South Coast AQMD's jurisdiction. To accomplish this purpose, the proposed project requires warehouse operators to reduce or otherwise mitigate emissions associated with their operations by choosing from a menu of emission-reducing measures, proposing a custom menu option, or paying a mitigation fee.

The proposed project will not increase the demand for goods or otherwise facilitate growth in shipping or goods movement. However, several of the compliance options require some construction (see Air Quality and Greenhouse Gas Impacts). The increased VMT associated with those construction projects is discussed below as "Transportation Impacts During Construction."

It is also possible that the proposed project will have the indirect effect of encouraging warehouse operators to relocate new warehouses outside of the South Coast AQMD region, to avoid having their warehouse be subject to the proposed project. While the IEc Study concluded that there would be no such relocations at the proposed rule stringency, this EA conservatively estimates that there would be up to three warehouse relocations. Thus, this section of the EA assesses the potential transportation impacts associated with those relocations as "Transportation Impacts During Operations."

The proposed project would also encourage and incentivize the purchase and use of NZE and ZE vehicles. As a result, it could indirectly result in the construction and operation of new manufacturing and recycling facilities, as well as infrastructure improvements necessary to meet this increased demand for NZE and ZE vehicles. These potential impacts were analyzed in CARB's Final EA for the ACT Regulation, and this EA incorporates that analysis by reference here. Because these potential impacts are indirect, and because the circumstances surrounding any such future development are unknown, the analysis of the potential transportation impacts associated with this development is discussed separately from the analysis of the proposed project's direct impacts.

4.4.1 Significance Criteria

The proposed project's transportation impacts will be considered significant if the proposed project would:

a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

b. Conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b).

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

d. Result in inadequate emergency access.

The Initial Study for the proposed project, under Chapter 2, Section XVII, *Transportation*, Impact (c) identified that the proposed project would not increase hazards or (d) result in inadequate emergency access. Therefore, these significance criteria will not be discussed further in this EA.

4.4.1.1 CEQA Guidelines

On September 27, 2013, Governor Jerry Brown signed Senate Bill 743 (SB 743) into law. SB 743 tasked the Office of Planning and Research (OPR) with developing alternative methods of measuring transportation impacts pursuant to CEQA, other than the current practice of using traffic congestion-based measures, which tend to promote increased vehicle use. OPR proposed to replace roadway capacity and vehicle delay measures often displayed as Levels of Service (LOS) with vehicle miles traveled (VMT), which estimates the total distance people drive by vehicle. This shift in CEQA transportation metric promotes outcomes that reduce reliance on automobile travel, and thus aligns with state goals for reducing greenhouse gas emissions and traffic-related air pollution, investing in multimodal transportation networks, encouraging higher density in-fill development, and providing clean, efficient access to destinations. The California Natural Resources Agency (Agency) certified and adopted the CEQA Guidelines update package including the guidelines for implementing SB 743. The new CEQA Guidelines Section 15064.3 - Determining the Significance of Transportation Impacts, generally requires that VMT-based metrics be used to evaluate transportation impacts.

4.4.1.2 OPR Technical Advisory

The South Coast AQMD has not yet adopted a VMT significance threshold for evaluating transportation impacts in CEQA under SB 743. Therefore, this EA utilizes the thresholds developed by OPR in December 2018 entitled, "*Technical Advisory on Evaluating Transportation Impacts in CEQA*" (Technical Advisory) for automobile VMT (i.e., light-duty vehicles).[1] The Technical Advisory provides non-binding technical advice, and is not a formal administrative regulation, like the CEQA Guidelines. However, it does provide a reasonable framework for lead agencies as they implement the CEQA Guidelines.

4.4.1.2.1 Screening Thresholds for Land Use Projects

The Technical Advisory suggests that lead agencies may screen out VMT impacts under CEQA based on project size, VMT generation characteristics, transit availability, and provision of affordable housing. The following project types are 'screened out' as having less than significant transportation impacts in the Technical Advisory:

- **Small Projects Generating Less than 110 Daily Trips:** OPR suggests a small project that would generate 110 trips per day or less generally may be assumed to cause a less-than-significant transportation impact and thus not warrant further VMT analysis.
- **Redevelopment Projects with a Net Decrease in VMT**: Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds developed by the jurisdiction should apply.
- **Projects in Low VMT Areas:** Residential and office (or other land use) projects that are located in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT and thus not warrant further VMT analysis.

[1] Governor's Office of Planning and Research. 2018, December. Technical Advisory on Evaluating Transportation Impacts in CEQA. https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

- **Projects in Transit Priority Areas (TPAs):** A TPA is an area within a half a mile of a major transit stop or a bus transit corridor with service intervals of no longer than 15 minutes during peak commute hours. A 'major transit stop' means "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods." as defined by Public Resources Code Section 21064.3. OPR suggests that a project in TPA should generally be presumed to have less than significant impacts, but the presumption might not be appropriate if the project:
  - Has a Floor Area Ratio (FAR) of less than 0.75
  - Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
  - Is inconsistent with the applicable Sustainable Communities Strategy (SCS) (as determined by the lead agency, with input from the Metropolitan Planning Organization)
  - Replaces affordable residential units with a smaller number of moderate- or high-income residential units
- **Local-Serving Retail Projects under 50,000 Square Feet:** Because new retail development typically redistributes shopping trips rather than creates new trips, estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts. By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant. The Technical Advisory suggests that retail uses of less than 50,000 square feet might be considered local-serving.
- **Affordable Housing Projects:** OPR guidance indicates that adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. Further, "… low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available." In areas where existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market-rate housing, therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of a less-than-significant impact for a 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations.

4.4.1.2.2 VMT Numeric Thresholds

OPR identified the following recommended VMT thresholds for projects that are not screened out under the criteria above:

- **Residential Projects**: A proposed residential project exceeding a level of 15 percent below existing VMT per capita may indicate a significant transportation impact. OPR states these

thresholds can be applied to either household (i.e., tour-based) VMT or home-based (i.e., trip-based) VMT assessments.[2]

- **Office (Employment) Projects:** OPR recommends that office (employment) projects that would generate vehicle travel exceeding 15 percent below existing VMT per employee for the region may indicate a significant transportation impact. OPR uses the term ˈoffice;ˈ however, the likely intent of the advisory is as ˈemployment.ˈ
- **Retail Projects**: Because new retail development typically redistributes shopping trips rather than creating new trips, OPR recommends a threshold based on the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) as the best way to analyze a retail projectˈs transportation impacts. A net increase in total VMT may indicate a significant transportation impact.

The thresholds identified by OPR were derived from the California Air Resources Board (CARB) *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (CARB Report) on the VMT reductions needed over current conditions (2015-2018) to meet the stateˈs 2030 and 2050 climate goals.[3] The CARB Report includes non-binding technical information on what level of statewide VMT reduction would promote achievement of statewide GHG emission reduction targets. CARB asserts that the currently adopted SCSs throughout the state "would achieve in aggregate, a nearly 18 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions relative to 2005 by 2035, if those SCSs were successfully implemented." However, in order to meet the state climate goals, the full reduction needed is a 25 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions, however, CARB has "determined that those targets would be infeasible for metropolitan planning organizations (MPOs) to achieve with currently available resources." CARB concluded (using assumptions of a cleaner fuels and technologies scenario) that a 14.3 percent reduction in total daily VMT per capita below existing conditions and a 16.8 percent reduction in light-duty VMT per capita below existing conditions were needed to meet these goals.[4] The CARB Report is based on modeling that incorporates cleaner technologies and fuels assumptions consistent with the 2017 Scoping Plan Update and the 2016 Mobile Source Strategy.

4.4.1.3 Thresholds for Impacts to Goods Movement

Neither the Technical Advisory nor CEQA Guidelines Section 15064.3(a) directly address how to analyze transportation impacts associated with changes to goods movement, which is largely carried out by heavy-duty trucks. CEQA Guidelines Section 15064.3(a) specifies that VMT to be analyzed is defined as the amount and distance of *automobile travel* (emphasis added) attributable to a project. The term ˈautomobileˈ refers to on-road *passenger vehicles, specifically cars and light*

[2] OPR states that lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included. In the analysis of each use, a project should take credit for internal capture. Alternatively, a lead agency may consider only the projectˈs dominant use.

[3] California Air Resources Board (CARB). January 19. 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals. https://ww2.arb.ca.gov/resources/documents/carb-2017-scoping-plan-identified-vmt-reductions-and-relationship-state-climate

[4] California Air Resources Board (CARB). January 19. 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals. https://ww2.arb.ca.gov/resources/documents/carb-2017-scoping-plan-identified-vmt-reductions-and-relationship-state-climate

trucks (emphasis added).[5] SB 743 is not intended to require the inclusion of heavy-duty truck trips, utility vehicles, or other types of vehicles in the VMT analysis.[6] In the case of trucks (other than light trucks), based on CARB's 2017 Scoping Plan the state's strategy for the goods movement sector is not in VMT reduction, but in advances in technology [zero-emissions (ZE) and near-zero-emissions (NZE) control strategies].[7]

4.4.1.4 Effect of COVID-19 on VMT

The measures put into place to slow the spread of COVID-19 resulted in significant changes in human activity and VMT. Most notable are the temporary reductions in both heavy-duty and light-duty VMT across the state's highways and local roads, and the resulting temporary emission reductions. In California, VMT fell to its lowest point in early- to mid-April, with an approximately 25 percent reduction in heavy-duty VMT and 50 to 60 percent reduction in light-duty VMT. Since that time, both heavy-duty and light-duty VMT have steadily increased, with heavy-duty VMT returning to pre-COVID-19 levels in early June.[8] COVID-19 stay-at-home orders and related closures are temporary measures. While there is potential for changes made during this time to have far-reaching implications for transportation mode choice, shared mobility, vehicle choice, and VMT into the future, the medium- or long-term effects of the COVID-19 on VMT are uncertain at this point in time, and it would be speculative to estimate any potential long-term or permanent changes. Predicting the proposed project's physical impacts on the environment without firm evidence based on facts to support the analysis would require an engagement in speculation or conjecture that is inappropriate for an EA. Accordingly, the transportation impact analysis presented in this EA is generally based on the assumption that general behavior would be similar to conditions prior to the start of COVID-19 stay-at-home orders.

4.4.2 Transportation Impacts During Construction (Significance Criteria b)

CEQA Guidelines Section 15064.3(b)(3) provides that a qualitative analysis of construction traffic may be appropriate for many projects. The proposed project contains several compliance options that would result in construction of new facilities. Here, 'construction' activities associated with the proposed project include: the installation of ZE charging, installation of hydrogen fueling station, installation of solar panels, installation of additional 'plugs' to accommodate ZE transport refrigeration units (TRUs) or ZE cargo handling equipment, and installation of high-efficiency HVAC systems. As a result, implementation of the proposed project could trigger the need to implement capital improvements at affected warehouses in the South Coast AQMD's jurisdiction. These construction activities would generate construction worker trips and vendor trips for material deliveries, which would generate VMT. Because of the nature of construction activities,

[5] Governor's Office of Planning and Research, December 2018, Technical Advisory on Evaluating Transportation Impacts Under CEQA, https://www.opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, accessed January 10, 2021.

[6] South Coast coordinated with staff at OPR on January 12, 2021 to confirm how to address heavy-duty freight VMT in CEQA documents. OPR staff identified that the intent of SB 743 was to address passenger vehicle VMT impact and not freight VMT, as cited under CEQA Guidelines Section 15064.3(a). Therefore, lead agencies could exclude freight VMT from transportation VMT impact analyses under CEQA.

[7] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on March 18, 2019.

[8] California Air Resources Board. 2020, November 24. Draft 2020 Mobile Source Strategy https://ww2.arb.ca.gov/sites/default/files/2020-11/Draft_2020_Mobile_Source_Strategy.pdf

any increase in VMT would occur on a short-term basis at each warehouse. In general, temporary construction related increases in VMT are not considered to be a transportation impact or be inconsistent with CEQA Guidelines section 15064.3. These construction projects would not have a substantial, permanent effect on regional VMT, including commute VMT, in the SCAG region. Additionally, discretionary projects at affected warehouses that would result in construction at existing warehouses could be subject to project level review under CEQA. As a result, construction projects would not have a permanent effect of regional VMT. Therefore, temporary effects of construction-related vehicles would not conflict with the state's GHG reduction and associated VMT goals for the transportation sector.

4.4.3 Transportation Impacts During Operations (Significance Criteria a and b)

4.4.3.1 Automobile VMT

CEQA Guidelines 15064.3(a) clarifies that the primary consideration in evaluating a project's transportation impacts for CEQA purposes is the amount and distance that a project might cause people to drive. This captures two measures of transportation impacts: number of automobile trips generated and VMT.

The proposed project would not indirectly or directly result in an increase in warehousing activities, and therefore would not result in an increase in employee commute trips by automobile (passenger vehicles and light trucks). Moreover, even if the proposed project resulted in new warehouses being located outside South Coast AQMD's jurisdiction, which the IEc Study concluded would not occur under the proposed project, relocated warehouses factor in the availability of employees and are expected to utilize employees within the local areas. Therefore, the proposed project is not anticipated to result in an increase in employee trips associated with warehouse relocations, even under the worst-case warehouse relocation scenario assumed in this EA. Consequently, for the purpose of automobile VMT, the proposed project is expected to generate 110 trips per day or less for employee commute trips and can be screened out from the need of further VMT analysis for employee commute trips in accordance with OPR's guidance for small projects. Thus, the proposed project would result in less-than-significant transportation impacts under SB 743 from employee trips and associated automobile VMT.

4.4.3.2 Truck VMT

As noted above, CEQA Guidelines Section 15064.3(a) specifies that VMT to be analyzed is defined as the amount and distance of *automobile travel* attributable to a project.[9] It does not require any analysis of increased VMT from heavy-duty truck trips. In fact, in CARB's 2017 Scoping Plan the state's strategy for the goods movement sector is not in VMT reduction, but in advances in technology [zero-emissions (ZE) and near-zero-emissions (NZE) control strategies].[10]

[9] South Coast AQMD staff conducted extensive research on the state's guidance for how to analyze truck VMT under SB 743 in CEQA documents. Searches included reviews of OPR's December 2018 Technical Advisory, CARB's 2017 Scoping Plan Update, the California Natural Resources Agency's rulemaking documents for the Updates to the 2019 CEQA Guidelines, which includes the incorporation of SB 743 requirements, and consultation with SCAG staff.

[10] California Air Resources Board, 2017, California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on March 18, 2019.

Nonetheless, to provide a conservative estimate of the potential impacts of the proposed project, the transportation analysis in this EA considers potential impacts from truck VMT.

The proposed project has the potential to affect regional VMT associated with potential warehouse relocations out of the South Coast AQMD's jurisdiction, potential cargo diversion to other ports, or as a result of a potential decrease in efficiency of goods movement in the South Coast AQMD's jurisdiction , as described below.

4.4.3.2.1 VMT from Potential Warehouse Relocation and Cargo Growth Diversion

Based on the IEc Study, under the currently proposed rule stringency of a 0.0025, the proposed project would not result in warehouse relocations out of South Coast AQMD's jurisdiction above the baseline scenario. Under the rule stringency scenario that would result in costs of $2.00 per square foot of warehouse space, the proposed project would result in a maximum of six warehouse relocations (see Chapter 5. Alternatives). This EA conservatively considers the potential for up to three warehouse relocations in order to provide a conservative relocation impact analysis for truck VMT. Table 4.4-1 identifies the daily truck trips generated by up to three warehouse relocations in order to determine whether the proposed project screens out from having to do a full VMT analysis under the OPR Technical Advisory screening criteria of 110 daily trips.

Table 4.4-1
Daily Truck Trips from Potential Warehouse Relocations – Screening Analysis

Truck Classification	Trips/ TSF	Trips/ Warehouse	Worst-Case Relocations (Up to Three Warehouses)
Class 4-7 Trucks	0.12	31	92
Class 8 Trucks	0.33	38	114
Truck Trips Total		68	205
Exceeds Screening Threshold of 110 Trips			**Yes**

Notes: TSF: Thousand Square Feet
Source: IEc, 2020, December 23. Results of ISR Warehouse Relocation Analysis

It should be noted that truck trips from warehouse relocations are not 'new' truck trips, and the proposed project would not directly or indirectly result in an increase in the number of truck trips since the proposed project would not cause a new warehouse to be built or result in an increase in warehouse space in terms of square footage. To the contrary, a warehouse subject to the WAIRE Program might consider improving operational efficiency and reducing the number of annual truck trips as an option to reduce their WPCO since the number of annual truck trips is one of the multipliers for calculating WPCO. However, in order to provide a conservative analysis that considers the potential increase in truck VMT, this EA considers the relocated warehouse truck VMT under OPR's guidance for small projects as a screening tool to determine if a full analysis of truck VMT is warranted. As shown in Table 4.4-1, under the worst-case relocation impact analysis, the proposed project would not be screened out under OPR's screening criteria of 110 daily trips for small projects; and therefore, a further VMT analysis associated with warehouse relocations was conducted.

Goods movement generally refers to the movement of raw, semi-finished, and finished materials and products used by businesses and residents across the transportation system. These goods move

in myriad ways and through complex systems, often using multiple modes of transportation (e.g. ships, trucks, trains, planes, etc.). Products can be produced within the U.S. or another country, and make their way to a business, retail store, or directly to consumers versus traditional purchases by consumers at physical retail outlets. The efficient movement of these goods are critical to maintain a strong economy and ensure improvements in the quality of life of regional residents.

Under this definition, goods movement in Southern California closely resembles the transportation patterns of retail uses described in the OPR Technical Advisory. Warehouses move retail products through distribution channels along business-to-business and business-to-consumer pathways. The IEc Study identifies that warehoused goods in Southern California have the following pathways: 43 percent local, 41 percent national, 11 percent regional, and 5 percent destined to northern California. In the Technical Advisory, the recommended significance threshold for retail projects is a net increase in total VMT.[11]

Since OPR has not identified guidance for heavy-duty trucks, for the purpose of this EA, changes in truck VMT associated with the proposed project would be considered significant if implementation of the proposed project would result in a net increase in total truck VMT since operational characteristics of the goods movement sector resemble retail projects. Truck VMT associated with the reasonable 'worst-case' relocation impact scenario of up to three warehouse relocations is identified in Table 4.4-2. While the proposed project is not anticipated to result in warehouse relocations out of South Coast AQMD's jurisdiction, under the reasonable 'worst-case' warehouse relocation scenario (i.e., three warehouse relocations), the proposed project could result in a net increase in truck VMT associated with the additional distances these trucks would need to travel in the Southern California region to move goods. Therefore, this increase in truck VMT is conservatively considered a Significant and Unavoidable Impact.

Table 4.4-2
Daily and Annual Truck VMT from Potential Warehouse Relocations

Truck Classification	Annual Truck VMT		Daily Truck VMT	
	Per Warehouse	Worst-Case Relocations (Up to Three Warehouses)	Per Warehouse	Worst-Case Relocations (Up to Three Warehouses)
Truck VMT Total	1,447,329	4,341,988	3,965	11,896

Source: IEc, 2020, December 23. Results of ISR Warehouse Relocation Analysis.

As discussed in Chapter 4.0, it is not reasonably foreseeable that implementation of the proposed project would result in cargo being shipping to other ports to avoid incurring any increased cost associated with the proposed project. Nonetheless, because of the uncertainty of market responses, this EA has conservatively assumed that there could be some diversions. However, any associated increase or decrease in truck VMT associated with such diversions would be speculative, given that it is unknown where the cargo would be diverted to and how that would affect truck VMT.

[11] IEc. 2020, December 23. Assessment of Warehouse Relocations Associated with the South Coast Air Quality Management District Warehouse Indirect Source Rule.

Efficiency of Goods Movement in Southern California

The WAIRE Program would have an indirect effect on goods movement within South Coast AQMD's jurisdiction. As described in Chapter 2 of this EA, the WAIRE Program would require warehouse operators to satisfy an annual WPCO, which is based on the reported number of annual truck trips serving the warehouse. To meet the WPCO, WAIRE Points must be earned by completing actions and investments, which include acquiring and/or using NZE and ZE trucks. Warehouse operators with multiple warehouses in the South Coast AQMD's jurisdiction may satisfy the WPCO through acquiring NZE and ZE trucks and rerouting those trucks so that the usage points are accumulated by multiple warehouses since each warehouse operator must report annual truck trips that serve the warehouse. Similarly, warehouse operators may contract with trucking companies that already own NZE and ZE trucks to route those trucks to warehouses in the South Coast AQMD. Purchasers of the trucks would be replacing an existing truck that has aged out of or is nearing the end of its useful life. As a result, there is a potential for trucks to be diverted by operators of warehouse to meet their WPCO, thus decreasing the efficiency of goods movement in the South Coast AQMD region, assuming truck routes are currently optimized for efficiency, which may not be true. Additionally, since the WAIRE Program applies to warehouses of certain sizes within South Coast AQMD's jurisdiction, and its implementation is expected to cause no warehouse relocation, it is not anticipated that the WAIRE Program would result in potential changes to the global supply chain and ocean shipping routes in emergency or non-emergency situations. The details and precise effect of how each warehouse may divert truck trips to earn WAIRE Points is not known and not reasonably foreseeable at this time. To make assumptions for the unknown would be speculative and not appropriate for the EA. It is also important to note that the South Coast AQMD intends to conduct ongoing monitoring, review, and reporting on the performance of the WAIRE Program. These 'check-ins' will provide useful information on implementation details and help identify effects on warehouses subject to the WAIRE Program.

While the proposed project may have an effect on NZE, ZE, and diesel truck VMT in the South Coast AQMD region, it is also possible that warehouse operators will consolidate the number of truck visits at a warehouse facility. As stated above, WPCO are based on the annual truck trips that are reported to South Coast AQMD. Therefore, there is an incentive to increase efficiency of truck movements to reduce the number of truck trips generated by a warehouse facility. Reducing truck trips and enhancing efficiency of truck movements would be beneficial effects of the proposed project.

4.4.3.3 Consistency with Goods Movement Plans

On May 16, 2016, CARB released the 2016 Mobile Source Strategy that demonstrated how the state can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years.[12] Under Senate Bill 44, CARB is required to update the Mobile Source Strategy every five years. CARB recently prepared a Draft 2020 Mobile Source Strategy.[13] The Update to the Mobile Source Strategy considers the recent Executive Order N-79-20 which established a goal

[12] California Air Resources Board. 2016, May 16. 2016 Mobile Source Strategy. https://ww2.arb.ca.gov/resources/documents/2016-mobile-source-strategy

[13] California Air Resources Board. 2020, November 24. Draft 2020 Mobile Source Strategy https://ww2.arb.ca.gov/sites/default/files/2020-11/Draft_2020_Mobile_Source_Strategy.pdf

that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035 and a goal transition existing trucks to ZE medium- and heavy-duty vehicles, where feasible, by 2045. The Mobile Source Strategy identifies the following strategies for on-road medium- and heavy-duty vehicles:

- Manufacturer requirements to foster clean technology production and sales;
- In-use requirements to accelerate penetration of newer technology;
- Incentive programs to promote and accelerate the use of advanced clean technologies;
- Enhanced enforcement strategies to ensure programs are achieving their anticipated benefits;
- Outreach and education to increase consumer awareness and acceptance of advanced vehicle and equipment technologies; and
- Infrastructure planning and development to support the transition to cleaner technologies.

The proposed project would accelerate the integration and use of NZE and ZE trucks and supporting infrastructure within South Coast AQMD's jurisdiction. Thus, the proposed project facilitates the implementation of the most recent statewide strategies for good movement as outlined in the Draft 2020 Mobile Source Strategy and Executive Order N-79-20; therefore, the proposed project is consistent with statewide strategies for goods movement. Similarly, local goods movement strategies, such as the Los Angeles County Goods Movement Plan, are an extension of the 2020 Mobile Source Strategy and the proposed project would not conflict with local goods movement strategies.

Additionally, the proposed project would result in a decrease in VMT associated with diesel fueled trucks with a commensurate increase in VMT associated with NZE and ZE trucks. Table 4.4-3 identifies the potential decrease in VMT by compliance year 2031 associated with diesel fueled trucks in South Coast AQMD's jurisdiction as a result of the proposed project above the cumulative baseline. The proposed project would allow for purchase of new NZE and ZE trucks as a way for warehouse operators to meet their WPCO. It is anticipated that while some of these trucks may be transitioned to other uses or warehouses to replace even older, higher emissions trucks in an operator's truck fleet outside of South Coast AQMD's jurisdiction, some of these trucks may be retired (i.e., scrapped). At this time, the percentage of diesel fueled trucks retired verses replaced outside of South Coast AQMD's jurisdiction as a result of the proposed project cannot be predicted. However, the proposed project would result in greater and earlier turnover of diesel fueled trucks to NZE and ZE trucks with supporting infrastructure than would have occurred without implementation of the proposed project. Additionally, Executive Order N-79-20 established a goal of 100 percent of California sales of new passenger cars and trucks be ZE by 2035 and a goal transition existing trucks to ZE medium- and heavy-duty vehicles, where feasible, by 2045. Therefore, the proposed project would lower the demand for diesel fueled trucks in the state and have beneficial effects on reductions of air pollution and greenhouse gas emissions that are consistent with the goals and policies outlined in the CARB's Mobile Source Strategy and 2017 Scoping Plan Update.

Table 4.4-3
Reduction in Diesel Truck VMT in the South Coast AQMD Region by 2031

Scenario		Annual Diesel Truck VMT Reduced by Compliance Year 2031	Daily Diesel Truck VMT Reduced by Compliance Year 2031
Scenario 1	NZE Class 8 truck acquisitions and subsequent visits from those trucks	634,183,368	1,737,489
Scenario 2	NZE Class 8 truck acquisitions and subsequent visits from those trucks (early purchase)	625,759,680	1,714,410
Scenario 3	NZE Class 8 truck acquisitions (funded by Carl Moyer program) and subsequent visits from those trucks	622,854,960	1,706,452
Scenario 4	NZE Class 8 truck visits from non-owned fleets	563,601,625	1,544,114
Scenario 5	ZE Class 8 truck visits from non-owned fleets	347,800,884	952,879
Scenario 6	Level 3 charger installations followed by ZE Class 6 & Class 8 truck acquisitions and subsequent visits from those trucks, using installed chargers[a]	0	0
Scenario 8	NZE Class 6 truck acquisitions and subsequent visits from those trucks	690,714,128	1,892,367
Scenario 9	NZE Class 6 truck visits from non-owned fleets	701,925,624	1,923,084
Scenario 10	ZE Class 6 truck visits from non-owned fleets	640,073,515	1,753,626
Scenario 12	Hydrogen station installations followed by ZE Class 8 truck acquisitions and subsequent visits from those trucks, using the hydrogen station	274,347,219	751,636
Scenario 13	ZE Class 2b-3 truck acquisitions and subsequent visits from those trucks	926,993,772	2,539,709
Scenario 14	ZE Class 2b-3 truck visits from non-owned fleets	937,552,394	2,568,637
Max. Potential VMT Reduction		**968,116,129**	**2,652,373**
Min. Potential VMT Reduction		**0**	0

Notes: Reduction in diesel-VMT above the cumulative baseline, accounting for other approved and pending regulations that affect diesel trucks in California. Scenarios 15 through 18 do not affect diesel truck VM; and therefore, are not shown in this Table.

[a] Under Scenario 6, should all warehouse operators choose to purchase NZE and ZE trucks to meet their WPCO, by compliance year 2031 ISR would have no incremental effect above existing CARB rules.

Despite the net increase in truck VMT from the reasonable 'worst-case' warehouse relocations and potential loss of efficiency of goods movement in Southern California, the increase in truck VMT would be offset by the potential emissions benefits associated with a decrease in diesel fueled truck VMT in the South Coast AQMD region for all scenarios except Scenario 6. CARB estimates that about 70 percent of total known cancer risk related to air toxics in California is attributable to

diesel particulate matter (DPM).[14] Therefore, reducing VMT from diesel fueled trucks is consistent with CARB's Mobile Source Strategy, the 2017 Scoping Plan Update, and thus the intent of SB 743 to reduce greenhouse gas emissions and traffic-related air pollution (see discussion under Sections 4.2.2 through 4.2.5 of this EA). Additionally, warehouses often operate near highly-populated and disadvantaged communities. Mobile sources accounted for 45 percent of exposure disparity for the African American population, and 37 percent of exposure disparity for people in disadvantaged communities.[15] Reductions in DPM from a transition from diesel fueled trucks to NZE and ZE trucks have local air quality and public health benefits to disadvantaged communities in the South Coast AQMD region.

4.4.3.4 Indirect Transportation Impacts Associated with Construction of New Manufacturing Facilities, Recycling Facilities, and Infrastructure Improvement NZE and ZE Vehicles

Because the proposed project encourages and incentivizes the purchase and use of NZE and ZE vehicles, it could also indirectly result in the construction and operation of new manufacturing and recycling facilities, as well as infrastructure improvements to support the transition to NZE and ZE vehicles. These potential impacts were analyzed in CARB's Final EA for the ACT Regulations, and this EA incorporates that analysis by reference here.

In summary, CARB's analysis found that short-term construction activities would result in short-term construction traffic (primarily motorized) in the form of worker commute- and material delivery-related trips. Depending on the amount of trip generation and the location of new facilities, implementation could result in potentially significant transportation impacts. Additionally, new manufacturing and recycling facilities may affect local roadways during the operational phase potentially increasing VMT levels on nearby roadways. Local roadways may also experience additional egress/ingress points or increased traffic that would result in hazardous conditions on local roadways. Inadequate access may impede emergency vehicle access to new facilities. Therefore, long-term operational-related impacts were also found to be potentially significant.

PROJECT IMPACTS – CONCLUSION: Based on the preceding analysis, the overall conclusion is that direct transportation impacts from construction activities VMT and employee commute VMT for the proposed project would be less than significant. However, in the reasonable 'worst-case' analysis for up to three warehouse relocations, the proposed project would result in a net increase in truck VMT during operations. In addition, potential indirect transportation impacts resulting from the construction of new manufacturing facilities, recycling facilities, and infrastructure improvement to support the transition to NZE and ZE vehicles would also be significant.

PROJECT MITIGATION MEASURES: South Coast AQMD will conduct ongoing monitoring, review, and reporting on the performance of the proposed project to provide useful information on implementation details. This information will help identify effects of the rule on warehouses subject to the WAIRE Program.

[14] California Air Resources Board. 2020, November 24. Draft 2020 Mobile Source Strategy https://ww2.arb.ca.gov/sites/default/files/2020-11/Draft_2020_Mobile_Source_Strategy.pdf

[15] California Air Resources Board. 2020, November 24. Draft 2020 Mobile Source Strategy https://ww2.arb.ca.gov/sites/default/files/2020-11/Draft_2020_Mobile_Source_Strategy.pdf

Furthermore, CARB's EA noted that indirect impacts could be reduced to a less-than-significant level by mitigation measures that can and should be implemented by local lead agencies including land use and/or permitting agency conditions of approval. New or modified facilities in California would qualify as a "project" under CEQA. The jurisdiction with primary permitting authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. However, these mitigation measures are beyond the authority of CARB and South Coast AQMD and not within its purview.

REMAINING IMPACTS: Even with ongoing monitoring, review, and reporting, the proposed project's transportation impacts from truck VMT caused by relocation of up to three warehouses and potential cargo shipping diversion would be significant and unavoidable. In addition, potential indirect transportation impacts resulting from the construction of new manufacturing facilities, recycling facilities, and grid improvements would also be significant and unavoidable.

CUMULATIVE IMPACTS: The preceding analysis concluded that transportation impacts from construction and employee commute trips would be less than significant as a result of implementing the proposed project. However, truck VMT would increase compared to the baseline under the 'worst-case' relocations analysis and potential decreases in goods movement efficiency if warehouse operators divert truck trips. Thus, the transportation impacts from operation (only with regards to truck VMT) are considered to be cumulatively considerable pursuant to CEQA Guidelines Section 15064(h)(1). In addition, potential indirect transportation impacts resulting from the construction of new manufacturing facilities, recycling facilities, and grid improvements would also be significant. Therefore, truck VMT is considered a significant adverse cumulative transportation impact. It should be noted that the transportation analysis is a conservative, 'worst case' analysis. The IEc Study indicates that no relocations would occur due to the proposed project and analysis in this EA concluded that cargo shipping diversions are not reasonably foreseeable. Additionally, while the proposed project could result in a potential net increase in truck VMT, there would be a substantial reduction in the amount of VMT from diesel fueled trucks and commensurate increase in VMT from NZE and ZE trucks for all scenarios except Scenario 6. The overall effect of the proposed project for these scenarios is therefore beneficial and would be consistent with SB 743's intent to reduce greenhouse gas emissions and traffic-related air pollution. Nonetheless, increased truck VMT is considered a significant adverse cumulative transportation impact.

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4.5 OTHER IMPACT AREAS

4.5.1 Indirect Impacts

The impact analysis for other impact areas, including Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services, Recreation, and Utilities and Service Systems, is incorporated by reference from the CARB Advanced Clean Truck Regulation (ACT) Final Environmental Analysis. These impact areas are only relevant to this EA to the extent they may be impacted by potential future construction of new manufacturing and recycling facilities, and improvements to the electrical grid. Because these impacts are indirect impacts of the proposed project, and because it would be speculative to analyze the specific impacts caused by future construction projects at this time, these impacts are evaluated at a more general level of detail than the proposed project's direct impacts. While lead agencies must use their best efforts to find out and disclose all that they reasonably can about a project's potentially significant environmental impacts, they are not required to predict the future or foresee the unforeseeable (CEQA Guidelines section 15144). As a result, the following indirect effects of the project were subject to the rule of reason and are evaluated in this section:

- **Construction of New Truck Manufacturing Facilities**. The proposed project would encourage and incentivize the purchase and use of NZE and ZE vehicles. While it remains uncertain how many warehouse operators subject to the proposed project would choose to comply by purchasing or operating NZE and ZE vehicles, the potential increase in demand could lead to the construction of new manufacturing facilities for these vehicles.
- **Construction of New Battery/Fuel Cell Manufacturing Facilities**. The proposed project would encourage and incentivize the purchase and use of ZE vehicles. While it remains uncertain how many warehouse operators subject to the proposed project would choose to comply by purchasing or operating ZE vehicles, the potential increase in demand could lead to the construction of new manufacturing facilities for ZE batteries and hydrogen fuel cells.
- **Mineral Resource Extraction/Production**. The proposed project would encourage and incentivize the purchase and use of ZE vehicles. While it remains uncertain how many warehouse operators subject to the proposed project would choose to comply by purchasing or operating ZE vehicles, the potential increase in demand could lead to the mineral resource extraction (e.g., lithium) and/or production (e.g., hydrogen).
- **Construction of New Recycling Facilities**. The proposed project would encourage and incentivize the purchase and use of ZE vehicles. While it remains uncertain how many warehouse operators subject to the proposed project would choose to comply by purchasing or operating ZE vehicles, the potential increase in demand could lead to the construction of new recycling facilities for batteries.
- **Energy Infrastructure Improvements**. The proposed project would encourage and incentivize the purchase and use of ZE vehicles. While it remains uncertain how many warehouse operators subject to the proposed project would choose to comply by purchasing or

operating ZE vehicles, the potential increase in energy demand could lead to the construction of new energy infrastructure.[1]

It is uncertain how many new facilities/infrastructure improvements would be built, where they would be built, and whether the local land use permitting authority would require mitigation. Therefore, it is not possible to analyze any specific potential impacts of this new development. Nonetheless, CARB provided a general analysis of these impacts in its Final Environmental Analysis for the Advanced Clean Truck (ACT) Regulation. The regulation requires truck manufacturers to sell medium-and heavy-duty ZE vehicles as an increasing percentage of California sales. The Final EA described the potential for the regulation to result in the construction of new manufacturing, recycling, and other facilities in this way:

> "Reasonably foreseeable compliance responses under this measure would include an increase in manufacturing and associated facilities to increase the supply of ZEVs, along with construction of new hydrogen fueling stations and battery electric vehicle (BEV) charging stations to support ZEV operations. Increased deployment of ZEVs could increase production of electricity and hydrogen fuel, reduce rates of oil and gas extraction, and result in associated increases in lithium and platinum mining and exports from sources countries or other states. Increased demand for lithium-ion batteries could increase production and manufacture, which could result in the expansion of or construction of new facilities along with associated increases in lithium mining and exports from source countries or other states. Disposal of any portion of vehicles, including batteries, would be subject to and have to comply with existing laws and regulations governing solid and hazardous waste, such as California's Hazardous Waste Control law, and implementing regulations, such as the Universal Waste Rule (22 California Code of Regulations (CCR) Chapter 23). That is, disposal of used batteries into solid waste landfills is prohibited; however, they could be refurbished, reused or disposed of as hazardous waste. To meet an increased demand of refurbishing or reusing batteries, new facilities or modifications to existing facilities are anticipated to accommodate battery recycling activities. Fleet turnover would be largely unaffected because the proposed sales requirement applies at time of new vehicle sales." (CARB ACT Final EA, pp. 19-20.)

The Final EA for the ACT Regulation further noted that "CARB does not have the ability to determine specific projects or locations, facility size and character, or site-specific environmental characteristics affected by any potential future facilities" (CARB ACT Final EA, pp. 19-20). Nonetheless:

> "This Final EA takes a conservative approach and considers some environmental impacts as potentially significant because of the inherent uncertainties in the relationship between physical actions that are reasonably foreseeable under the Proposed Project and environmentally sensitive resources or conditions that may be affected. This approach tends to overstate environmental impacts considering these uncertainties and is intended to satisfy the good-faith, full-disclosure intention of CEQA. If specific projects are proposed and subjected to project-level

[1] The CARB EA did not specifically discuss these potential improvement projects, but they would have similar impacts to the other development projects discussed in that EA, and thus the same impacts analysis would apply.

> environmental review, it is expected that many of the impacts recognized as potentially significant in the Final EA that are not already mitigated or avoided with this proposed project, can later be avoided or reduced to a less-than-significant level. If a potentially significant environmental effect cannot be feasibly mitigated with certainty, this Final EA identifies the impact as significant and unavoidable." (CARB ACT Final EA, pp. 19-20).

With respect to mitigation for any potential impacts resulting from development of new facilities, CARB's Final EA stated:

> "The Final Draft EA contains a degree of uncertainty regarding implementation of mitigation for potentially significant impacts. While CARB is responsible for adopting the Proposed Project, it does not have authority over all the potential infrastructure and development projects that could be carried out in response to the Proposed Project. Other agencies are responsible for the review and approval, including any required environmental analysis, of any facilities and infrastructure that are reasonably foreseeable, including any definition and adoption of feasible project-specific mitigation measures, and any monitoring of mitigation implementation. For example, local cities or counties must approve proposals to construct new facilities. Additionally, State and/or federal permits may be needed for specific environmental resource impacts, such as take of endangered species, filling of wetlands, and streambed alteration.
>
> Because CARB cannot predict the location, design, or setting of specific projects that may result and does not have authority over implementation of specific infrastructure projects that may occur, the programmatic analysis in the Final Draft EA does not allow for identification of the precise details of project-specific mitigation. As a result, there is inherent uncertainty in the degree of mitigation that would ultimately need to be implemented to reduce any potentially significant impacts identified in the Final Draft EA. Consequently, this Final Draft EA takes the conservative approach in its post-mitigation significance conclusions (i.e., tending to overstate the risk that feasible mitigation may not be sufficient to mitigate an impact to less than significant) and discloses, for CEQA compliance purposes, that potentially significant environmental impacts may be unavoidable, where appropriate. It is also possible that the amount of mitigation necessary to reduce environmental impacts to below a significant level may be far less than disclosed in this Final Draft EA on a case-by-case basis. It is expected that many potentially significant impacts of facility and infrastructure projects would be avoidable or mitigable to a less-than-significant level as an outcome of their project-specific environmental review processes." (CARB ACT Final EA, pp. 20).

This EA incorporates by reference CARB's analysis of the potential impacts of this potential development, including its discussion of potential mitigation measures, for each of the impact areas in Table 4.5-1. The proposed project would likely result in even fewer new facilities than CARB's ACT Regulation, given the more limited geographic scope of the proposed project (only within South Coast AQMD's jurisdiction), its more limited application (just to subject warehouses), and the alternative methods of compliance available to warehouses (e.g., installing filtration systems at nearby sensitive receptors). Nonetheless, this EA adopts CARB's conservative approach and concludes these potential impacts, while uncertain, are significant and unavoidable. Table 4.5-1

identified the potential indirect effects of the proposed project associated with the upstream and downstream manufacturing and resources extraction that may occur as a result of the project.[2]

Table 4.5-1
Indirect Impacts of the Proposed Project

Indirect Impact Area	Discussion	Significance Conclusion
Aesthetics	Increased use of NZE and ZE vehicles and technology could increase the demand for lithium mining[3], new and modified manufacturing facilities, improvements to the electric grid, and expanded/modified recycling facilities. There is uncertainty as to the exact locations of new and modified facilities and infrastructure. Operation and construction of these facilities, though likely to occur in areas with appropriate zoning where other similar facilities may already exist, could introduce or increase the presence of non-natural appearing elements (e.g., buildings, parking lots, mining equipment) in areas with national, State, or county designated scenic vistas and/or scenic resources visible from State scenic highways. The visual impact of such development would depend on several variables, including sensitivity of viewers, size of facilities, viewer distance, angle of view, visual absorption capacities, and the structure placement in the landscape. Introduction of new facilities in a highly sensitive and natural area, for example, could substantially degrade the area's visual quality. In addition, operation and construction may introduce substantial sources of nighttime lighting for safety and security purposes. In areas with minimal existing lighting, lighting may be a substantial new source of light or glare. While impacts could be reduced to a less-than-significant level by mitigation measures prescribed by local, State, federal, or other land use or permitting agencies (either in the U.S. or abroad) with approval authority over the development projects, South Coast AQMD does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. Therefore, impacts from the construction and operational phases of the proposed project are significant and unavoidable.	Construction: **Significant and unavoidable** Operations: **Significant and unavoidable**
Agriculture and Forestry Resources	There is uncertainty as to the exact locations of new and modified manufacturing and recycling facilities, improvements to the electrical grid, and lithium mining; therefore, their location in relation to agricultural land, including farmland, land zoned for agricultural use, and land under Williamson Act (Government Code Section 51200 et seq.) contract is unknown. Similarly, it is uncertain where new and modified facilities would be in relation to forest land and timberland. Construction and modification of these facilities, though likely to occur in areas with appropriate zoning that would not have agricultural or forestry uses, could result in conversion of agricultural land or forest land if they are sited in areas of Prime Farmland,	Construction: **Significant and unavoidable** Operations: **Significant and unavoidable**

[2] Indirect impacts from air quality, GHG emissions, energy, hazardous materials and solid and hazardous waste, and transportation are identified in Chapter 4.1 through 4.4, respectively.

[3] Hard rock mining of lithium ore would not be expected to occur within the state or the U.S

Table 4.5-1
Indirect Impacts of the Proposed Project

Indirect Impact Area	Discussion	Significance Conclusion
	Unique Farmland, or Farmland of Statewide Importance, Williamson Act conservation contracts, forest land or timberland. Some of the conversion would be permanent where facilities are constructed, while temporary conversion may be needed to facilitate temporary construction activities. Potential agricultural and forest resource impacts could be reduced to a less-than-significant level by mitigation measures prescribed by local, State, federal, or other land use or permitting agencies (either in the U.S. or abroad) with approval authority over the development projects. However, South Coast AQMD does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. Therefore, impacts from the construction and operational phases of the proposed project are significant and unavoidable.	
Biological Resources	Construction of new recycling and manufacturing facilities and improvements to the electrical grid could require disturbance of undeveloped area, such as clearing of vegetation, earth movement and grading, trenching for utility lines, erection of new buildings, and paving of parking lots, delivery areas, and roadways. These activities would have the potential to adversely affect biological resources (e.g., species, habitat) because there could be biological species that occur, or even thrive, in developed settings. Additionally, resources could also be adversely affected by the installation of hydrogen fuel dispensing units at existing gasoline service stations and modifications to existing hydrogen production plants within existing footprints, or at other sites in areas with consistent zoning. Operation of a new facility could deter wildlife from the surrounding habitat or could impede wildlife movement through the area. This impact would be substantial if there is not adequate habitat nearby. Vegetation management may be necessary to comply with fire codes and defensible space requirements, which may require tree trimming and other habitat modification that could, for example, result in species mortality or nest failure. Lithium may also be collected from lake brines and clays.[4] Such activities could result in substantial disturbances to biological resources and could cause a reduction in sensitive habitat, interference with a wildlife corridor, loss of special-status species, or conflict with a habitat conservation plan or natural community conservation plan. Water contamination associated with lithium ore extraction could have acute and adverse effects to sensitive habitat and sensitive species.	Construction: **Significant and unavoidable** Operations: **Significant and unavoidable**

[4] Hard rock mining of lithium ore and its related effects to biological resources would not be expected to occur within the state or the U.S.

Table 4.5-1
Indirect Impacts of the Proposed Project

Indirect Impact Area	Discussion	Significance Conclusion
	Impacts to biological resources could be reduced to a less- than-significant level by mitigation that can and should be implemented by local lead agencies but is beyond the authority of South Coast AQMD and not within its purview. Therefore, impacts from the construction and operational phases of the proposed project are significant and unavoidable.	
Cultural Resources	The cultural resources that could potentially be affected by ground disturbance activities associated with new manufacturing and recycling facilities and infrastructure associated with the transition to NZE and ZE vehicles could include, but are not limited to, prehistoric and historical archaeological sites, paleontological resources, historic buildings, structures, or archaeological sites associated with agriculture and mining, and heritage landscapes. Properties important to Native American communities and other ethnic groups, including tangible properties possessing intangible traditional cultural values, also may exist. Historic buildings and structures may also be adversely affected by demolition-related activities. Most operational activities would not have the potential to affect archaeological, paleontological, or historical resources. Operation of new facilities may, however, change the visual setting of the surrounding area, which could adversely affect historic resources and districts with a visual component. Potential construction-related and operational-related cultural resources impacts could be reduced to a less-than-significant level by mitigation that can and should be implemented by local lead agencies but is beyond the authority of South Coast AQMD and not within its purview. Therefore, impacts from the construction and operational phases of the proposed project are significant and unavoidable.	Construction: **Significant and unavoidable** Operations: **Significant and unavoidable**
Geology and Soils	Although it is reasonably foreseeable that construction activities could occur as a result of new or modified manufacturing and recycling facilities and improvements to the electrical grid, there is uncertainty as to the exact location of new facilities/infrastructure and, as a result, there is uncertainty as to geologic conditions at project sites. Furthermore, characteristics of any new facilities and what kinds of modifications to existing facilities would occur is unknown. Construction activities would have the potential to adversely affect soil and geologic resources in construction areas. New and modified facilities and infrastructure associated with compliance responses under the proposed project could be located in a variety of geologic,	Construction: **Significant and unavoidable** Operations: **Significant and unavoidable**

Table 4.5-1
Indirect Impacts of the Proposed Project

Indirect Impact Area	Discussion	Significance Conclusion
	soil, and slope conditions with varying amounts of vegetation that would be susceptible to soil compaction, soil erosion, and loss of topsoil during construction. Implementation of the proposed project would not be expected to result in effects to seismicity. The level of susceptibility to geologic effects, such as erosion and landslides, varies by location and geologic conditions. However, the specific design details, siting locations, and soil compaction and erosion hazards for manufacturing and recycling facilities are not known at this time and would be analyzed on a site-specific basis at the project level. Hard rock lithium ion extraction, which would be expected to occur outside of the state and U.S. would have adverse effects to erosion from potential loss of forests and soil disturbance. The impacts to geology and soil resources could be reduced to a less-than-significant level by mitigation that can and should be implemented by federal, State, and local lead agencies, but is beyond the authority of South Coast AQMD and not within its purview. Therefore, impacts from the construction and operational phases of the proposed project are significant and unavoidable.	
Hydrology and Water Quality	New and modified manufacturing and recycling facilities and improvements to the electrical grid could be in locations with a range of hydrologic conditions. Construction of buildings may exacerbate hydrologic hazards. Precise impacts cannot be determined because specific construction details, siting locations, and associated hydrology and water quality conditions are not known at this time. Construction projects would be required to comply with applicable erosion, water quality standards, and waste discharge requirements (e.g., National Pollution Discharge Elimination System [NPDES], Stormwater Pollution Prevention Plan [SWPPP). The operation of new plants, stations, and modifications would be required to comply with applicable erosion, water quality standards, and waste discharge requirements (e.g., NPDES, SWPPP). With respect to depleting groundwater supplies, new facilities are not being anticipated to result in substantial demands due to the nature of associated activities. Lithium mining and extraction could result in over drafting of groundwater. Extraction of lithium has substantial effects on water quality. Mineral extraction and mining activities within the U.S. would be required to comply with the provisions of the Clean Water Act and the natural resource protection and land reclamation requirements of the appropriate State and federal land managers. For instance, the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) mining permit conditions contain protections for	Construction: **Significant and unavoidable** Operations: **Significant and unavoidable**

Table 4.5-1
Indirect Impacts of the Proposed Project

Indirect Impact Area	Discussion	Significance Conclusion
	hydrologic resources and require mining reclamation standards. However, lithium is obtained from areas outside of the U.S., where State and U.S laws and regulation are not enforced. Thus, water quality impacts related to mining could occur because of implementation of the reasonably foreseeable compliance responses associated with the proposed project. This impact could be reduced to a less-than-significant level by mitigation that can and should be implemented by local lead agencies but is beyond the authority of South Coast AQMD and not within its purview. Therefore, impacts from the construction and operational phases of the proposed project are significant and unavoidable.	
Land Use and Planning	New and modified manufacturing and recycling facilities would likely occur within existing footprints or in areas with consistent zoning or would undergo the appropriate process for a variance or conditional use. Additionally, constructed facilities would not be linear and are unlikely to be constructed in an area that would require displacing existing dissimilar uses (e.g., housing). Thus, implementation of the proposed project would not be anticipated to divide an established community or conflict with a land use policy.	Construction: Less than significant Operations: Less Than Significant
Mineral Resources	While manufacturing and recycling facilities would likely be constructed within areas zoned for industrial uses, there is a possibility that buildings could be sited in locations identified as having viable mineral resources that are locally important or are of regional or state value. However, buildings would be limited in size and would not wholly preclude resource recovery from adjacent areas. As result, this impact would be less than significant. Long-term operational compliance responses associated with the proposed project include increased mining and processing of rare materials (e.g., lithium) used in fuel cells and ZE vehicle batteries. Depending on the magnitude of required materials, implementation of the proposed project could affect the availability of known minerals. The demand for additional mining to meet increased use of batteries could result in the development of new mines and mining of lithium. For the purposes of this document it would be too speculative to determine if, when, and where a new mine may be located. In the case that new mines are required, they would go through independent environmental review at the appropriate federal, state, or local level. It is assumed, for the purposes of this analysis that any new mines located within the U.S. or the state would be in areas with appropriate zoning, and subject to Federal, State, and/or local requirements. Batteries used in ZE vehicles are primarily lithium-based. Thus, it is assumed that mineral resource requirements associated with	Construction: Less than significant Operations: **Significant and unavoidable**

Table 4.5-1
Indirect Impacts of the Proposed Project

Indirect Impact Area	Discussion	Significance Conclusion
	implementation of recommended measures associated with the proposed project would be tied to lithium resources and other lithium-ion battery-related metals. The only domestic lithium mine in operation in the U.S. is a brine operation in Nevada; however, in recent years, 6.9 million tons of new lithium resources have been identified in the U.S. in the form of continental brines, geothermal brines, hectorite, oilfield brines, and pegmatites. Worldwide reserves total approximately 14 million metric tons. The magnitude of reserves is necessarily limited by many considerations, including cost of drilling, taxes, price of the mineral commodity being mined and the associated demand. In addition, deposits of mineral resources are also important to consider in assessing future supplies. Furthermore, owing to continuing exploration, identified lithium resources have increased substantially worldwide. Worldwide, identified lithium resources are currently estimated to be approximately 62 million tons. Increased use of fuel cell electric vehicles could increase the demand for platinum. With the phasing out of conventional internal combustion engines for trucks that will use platinum for catalysts, the potential demand on platinum-group metals (PGMs) should not be substantial. One U.S. domestic company produced about 18,000 kilograms of PGMs with an estimated value of about $570 million from its two mines located in Montana. Worldwide palladium reserves are about 67 million metric tons. Implementation of the proposed project and associated compliance responses could result in an increased development where mining for lithium and platinum is feasible, which could conceivably affect the availability of these mineral resources if access to resources becomes impeded. This impact could be reduced to a less-than-significant level by mitigation that can and should be implemented by local lead agencies but is beyond the authority of South Coast AQMD and not within its purview. Therefore, long-term operational impacts of the proposed project are significant and unavoidable.	
Noise	Construction and modification of manufacturing and recycling facilities and improvements to the electrical grid would result in construction-related noise and vibration in excess of applicable standards or that result in a substantial increase in ambient levels at nearby sensitive receptors. Operational-related activities associated with lithium mining could produce substantial stationary sources of noise. New sources of noise associated with the implementation of the proposed project could include operation of manufacturing plants and recycling facilities.	Construction: **Significant and unavoidable** Operations: **Significant and unavoidable**

Table 4.5-1
Indirect Impacts of the Proposed Project

Indirect Impact Area	Discussion	Significance Conclusion
	Depending on the proximity to existing noise-sensitive receptors, stationary source noise levels could exceed applicable noise standards and result in a substantial increase in ambient noise levels. This impact could be reduced to a less-than-significant level by mitigation that can and should be implemented by local lead agencies but is beyond the authority of South Coast AQMD and not within its purview. Therefore, impacts from the construction and operational phases of the proposed project are significant and unavoidable.	
Population and Housing	Construction and modification activities would be anticipated to require minimal if any crew relocation because manufacturing facilities are frequently constructed and the demand for crews would be temporary (e.g., 6 to 12 months per project). Furthermore, it would not be anticipated that a substantial amount of new personnel would be needed to operate the facilities and that enough employment base would likely be available from the local population. If manufacturers build new truck assembly plants in California, it is reasonable to anticipate that (potential) workers would be local and are not likely to migrate from other places. Therefore, impacts from the construction and operational phases of the proposed project are less than significant.	Construction: Less than significant Operations: Less than significant
Public Services	As discussed for Population and Housing, minimal or no relocation of employees would occur during construction or operation. Increased operation of manufacturing facilities may increase the need for emergency services in the case of accidents. Compliance with Occupational Safety and Health Administration safety regulations and local fire departments would minimize the risk of accidents. Therefore, impacts from the construction and operational phases of the proposed project are less than significant.	Construction: Less than significant Operations: Less than significant
Recreation	As discussed for the topic of population and housing, minimal or no relocation of employees would occur during construction or operation of new facilities built in response to the proposed project. Therefore, only minimal increases in the use of parks and other recreational facilities may occur and impacts from the construction and operational phases of the proposed project are less than significant.	Construction: Less than significant Operations: Less than significant
Utilities and Service Systems[a]	Utilities and Service Systems impacts are inherently long-term and related to the operational facilities; thus, there would be no short-term construction-related impacts associated with the proposed project. New manufacturing plants and recycling facilities could generate substantial increases in the demand for water supply, wastewater treatment, storm water drainage, energy, and solid waste services in their local areas. Additionally, depending on the location, new facilities may require new utility service lines and connections. At this time, the specific location, type, and number of new	Construction: No impact Operations: **Significant and unavoidable**

Table 4.5-1
Indirect Impacts of the Proposed Project

Indirect Impact Area	Discussion	Significance Conclusion
	manufacturing and recycling facilities developed is not known and would be dependent upon a variety of market factors including economic costs, product demands, and environmental constraints. Therefore, the ultimate magnitude and location of demand for utilities such as water and wastewater cannot be known. Thus, the specific impacts from new manufacturing plants and recycling facilities on utility and service systems cannot be identified with any certainty, and individual plants could potentially result in significant environmental impacts related to procurement and delivery of utilities and public services. Any new or modified facilities, no matter their size and location would be required to seek local or State land use approvals prior to their development. In addition, part of the land use entitlement process for facilities proposed in California requires that each of these projects undergo environmental review consistent with the requirements of CEQA and the CEQA Guidelines. It is assumed that facilities proposed in other states would be subject to comparable federal, State, and/or local environmental review requirements (e.g., CEQA) and that the environmental review process would assess whether adequate utilities and services (i.e., wastewater services, water supply services, solid waste facilities) would be available and whether the project would result in the need to expand or construct new facilities to serve the project. Through the environmental review process, utility and service demands would be calculated and agencies would provide input on available service capacity and the potential need for service-related infrastructure including expansions to waste water treatment plants, new water supply entitlements and infrastructure, storm water infrastructure, and solid waste handling capacity (e.g., landfills). Resulting environmental impacts would also be determined through this process. Potential long-term operational-related utilities and service systems impacts could be reduced to a less-than-significant level by mitigation that can and should be implemented by local lead agencies but is beyond the authority of South Coast AQMD and not within its purview. Therefore, operational impacts of the proposed project are significant and unavoidable.	

Notes:
[a] Indirect impacts to energy are evaluated in Chapter 4.2 of this Draft EA
Source: California Air Resources Board. 2020, June 23. Final Environmental Analysis for the Proposed Advanced Clean Trucks Tule. https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf

PROJECT IMPACTS – CONCLUSION: Based on the preceding analysis, indirect impacts to Mineral Resources, Population and Housing, Land Use and Planning, Public Services, and Recreation due to the construction of new manufacturing and recycling facilities and improvements to the electrical grid are found to be less than significant. There would be no construction-related indirect impacts to Utilities and Service Systems. Indirect impacts to Population and Housing, Land Use and Planning, Public Services, and Recreation due to the operational phase are less than significant. However, potential impacts to Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, and Noise, resulting from the construction and operational phases of new manufacturing facilities, recycling facilities, and infrastructure improvements would be potentially significant. Indirect impacts to Mineral Resources and Utilities and Service Systems during the operational phase will also be potentially significant.

PROJECT MITIGATION MEASURES: South Coast AQMD does not have land use authority over indirect impacts associated with upstream and downstream effects of the proposed project. However, future discretionary review may be required for these types of improvements. While South Coast AQMD is a commenting agency for CEQA projects within the South Coast AQMD region, it is up to the lead agencies for these particular construction projects to impose additional mitigation requirements under CEQA. As a result, while there are potential measures that could reduce and/or eliminate these impacts, these mitigation measures are not included in this EA because it is outside of South Coast AQMD's jurisdiction to impose.

REMAINING IMPACTS: Potential indirect impacts to Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, and Noise resulting from the construction and operational phases of new manufacturing facilities, recycling facilities, and infrastructure improvement to support the transition to NZE and ZE vehicles would be significant and unavoidable. Impacts to Mineral Resources and Utilities and Service Systems during the operational phase will also be significant and unavoidable.

CUMULATIVE IMPACTS: The proposed project could indirectly result in the construction of new manufacturing facilities, recycling facilities, and infrastructure improvements to support the transition to NZE and ZE vehicles. As CARB concluded in its EA, the proposed project could result in a cumulatively considerable contribution to a significant cumulative impact on Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Mineral Resources, Noise, and Utilities and Service Systems. The proposed project would not result in significant cumulative impacts related to Land Use and Planning, Population and Housing, Public Services, and Recreation.

CHAPTER 5 ALTERNATIVES

5.1 INTRODUCTION

This section provides a discussion of alternatives to the proposed project as required by CEQA (CEQA Guidelines Section 15126.6). Alternatives include measures that would feasibly attain most of the basic objectives of the proposed project and provide a means for evaluating the comparative merits of each alternative. The discussion of alternatives shall focus on alternatives to the project including alternative locations that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly (CEQA Guidelines Section 15126.6(b)). A 'no project' alternative must also be evaluated (CEQA Guidelines Section 15126.6(e)). The range of reasonable alternatives must be sufficient to permit a reasoned choice but need not include every conceivable project alternative. CEQA Guidelines Section 15126.6(c) specifically notes that the range of reasonable alternatives required in a CEQA document is governed by a 'rule of reason' and only necessitates that the CEQA document set forth those alternatives necessary to permit a reasoned choice. The key issue is whether the selection and discussion of alternatives foster informed decision making and meaningful public participation. A CEQA document need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. South Coast AQMD Rule 110 (the rule which implements the South Coast AQMD's certified regulatory program) does not impose any greater requirements for a discussion of project alternatives in an EA than is required for an environmental impact report (EIR) under CEQA.

5.2 METHODOLOGY FOR DEVELOPING PROJECT ALTERNATIVES

The alternatives typically included in CEQA documents for proposed South Coast AQMD rules, regulations, or plans are developed by breaking down the project into distinct components (e.g., emission limits, compliance dates, applicability, exemptions, pollutant control strategies, etc.) and varying the specifics of one or more of the components.

Of the requirements in the proposed project, only the components that pertain to PR 2305 – Warehouse Indirect Source Rule could involve physical or operational modifications to warehouses that are subject to the Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program, and these physical or operational modifications could potentially have an effect on the physical environment. The WAIRE Program is being developed so warehouse operators subject to the proposed project can implement changes to reduce emissions from mobile sources associated with their operations. Alternatives to the proposed project were developed by modifying components of the WAIRE Program. The rationale for selecting and modifying specific components of the WAIRE Program to generate a reasonable range of feasible alternatives for the alternatives analysis is based on CEQA's requirement to present "realistic" alternatives; that is, alternatives that can actually be implemented. These alternatives are also designed to meet most and all of the basic objectives of the proposed project as well as to reduce the proposed project's potentially significance adverse environmental impacts. The alternatives were developed by varying the proposed rule applicability in terms of warehouse size in square feet, the proposed rule stringency, the proposed initial compliance period, and the availability of actions on the WAIRE

Menu that warehouse operators can select and implement to meet the WAIRE Points Compliance Obligation (WPCO).

5.3 DESCRIPTION OF ALTERNATIVES

The evaluation of the components that comprise the WAIRE Program is based on construction and operational activities from the modeled WAIRE Points scenarios if all warehouse operators selected one scenario as the single, sole compliance option to meet their WPCO. In the context of the proposed project, which is a rule, "construction" impacts are those impacts that would result if warehouse operators selected a compliance option requiring new construction, while "operational" impacts are those impacts that would be ongoing (e.g., impacts resulting from warehouse relocations, cargo growth diversion, increased demand for electricity and need for charging infrastructure, increased disposal of batteries and hydrogen fuel cells, or operation of new Minimum Efficiency Reporting Value (MERV) 16 or greater filters and filtration systems installed to comply with the rule).

The environmental impacts analysis in Chapter 4 of the EA analyzes the proposed project's direct adverse environmental impacts. The analysis indicates that the proposed project could result in the following potentially significant adverse impacts: air quality impacts during construction from the installation of electric vehicle (EV) chargers (Scenario 6) and hydrogen fueling stations (Scenario 12) and during overlapping construction and operational activities; greenhouse gas (GHG) emissions impacts during operations from the use of MERV 16 or greater filters and filtration systems (Scenario 15) and cargo growth diversion; energy impacts during operations due to increased demand for electricity and increased need for EV charging infrastructure; hazardous materials and solid and hazardous waste impacts for construction waste that could be characterized as hazardous waste and during operations with regards to impact on recycling capacity at the existing recycling infrastructure from the increased disposal of batteries and hydrogen fuel cells and impact from routine transport, use, or disposal of liquefied natural gas (LNG) fuel; and transportation impacts during operations with regards to truck vehicle miles travel (VMT) from relocation of up to three warehouses are assumed for the environmental impact analysis purposes even though no such relocations are expected to occur based on the currently proposed rule stringency. It is important to note that this EA assumes some cargo growth shipping diversion. Because of the uncertainty of the market result, and because it is not possible to quantify, the impacts from cargo growth diversion are discussed qualitatively.

The proposed project's direct environmental impacts analysis in Chapter 4 of the EA also indicates that implementation of the WAIRE Program based on the modeled WAIRE Points scenarios if all warehouse operators selected one scenario as the single, sole compliance option to meet their WPCO, will result in the following less than significant adverse impacts: air quality impacts during operations; GHG construction emissions impacts that could directly result from the installation of EV charger (Scenario 6) and hydrogen fueling station (Scenario 12) after subtracting a 30-year amortization; energy impacts during construction; and transportation impacts from construction activities as well as during operations with regards to automobile VMT from employee commute trips associated with up to three warehouse relocations that are assumed for the environmental impact analysis in this EA.

The environmental impact analysis in Chapter 4 of the EA also analyzes the proposed project's indirect adverse environmental impacts, including impacts to air quality and GHG emissions,

energy, hazardous materials and solid and hazardous waste, and transportation associated with construction of new manufacturing facilities, recycling facilities, and grid improvements that could result if warehouse operators choose to comply with the WAIRE Program by purchasing or using zero-emissions (ZE) trucks. These indirect impacts of the proposed project were comprehensively analyzed by the California Air Resources Board (CARB) in its Final Environmental Analysis for the Advanced Clean Trucks Regulation (State Clearinghouse No.: 2018052041)[1], which found that the development of new facilities, including manufacturing, recycling, and grid infrastructure facilities, which is an indirect impact of the proposed project, could also have potentially significant impacts in the areas of Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Mineral Resources (with regards to long-term, operational-related impacts from increased demand for new mines and mining activities to meet increased use of lithium-based batteries for ZE vehicles), Noise, and Utilities.

Five alternatives to the proposed project have been developed and summarized in Table 5-1, as follows: Alternative A – No Project, Alternative B – Decreased Emission Reductions, Alternative C – Increased Emission Reductions, Alternative D – All Natural Gas Options Only, Alternative E – All Electric Options Only. The primary components of the alternatives that have been modified are the WAIRE Program applicability in terms of warehouse size in square feet, the proposed rule stringency, the proposed initial compliance period, and the actions that are available on the WAIRE menu, which could make the WAIRE Program more prescriptive by including a limited number of actions that warehouse operators can select and implement. Unless otherwise specifically noted, all other components of the project alternatives are identical to the components of the proposed project.

The South Coast AQMD's Governing Board may choose to adopt any portion or all of any alternative presented in the Final EA with appropriate findings as required by CEQA. The Governing Board is able to adopt any portion or all of any of the alternatives presented because the impacts of each alternative will be fully disclosed to the public, and the public will have the opportunity to comment on the alternatives and impacts generated by each alternative. Written suggestions on potential project alternatives received during the public review and comment period for the Draft EA will be considered when preparing the Final EA and will be included as an appendix of the Final EA.

The following subsections provide a brief summary of the proposed project along with a description of the alternatives.

5.3.1 Proposed Project

The proposed project (also referred to as the WAIRE Program) consists of PR 2305 and the associated mitigation program, and PR 316. It facilitates NOx and PM, including DPM, emissions reductions from the vehicles and other sources of emissions associated with existing and new warehouses located in the South Coast AQMD's jurisdiction in order to assist in meeting state and federal air quality standards for ozone and PM2.5.

[1] California Air Resources Board. 2019. The Advanced Clean Trucks Regulations Final Environmental Analysis. Accessed at: https://ww3.arb.ca.gov/regact/2019/act2019/finalea.pdf.

The project objectives of the WAIRE Program are to: 1) reduce NOx emissions and PM, including DPM, and reduce associated public health impacts from warehouse activities; 2) facilitate local and regional emission reductions associated with warehouses and the mobile sources attracted to warehouses in order to assist in meeting state and federal air quality standards for ozone and PM2.5; 3) implement actions to reduce air pollution that disproportionally affects environmental justice communities in accordance with AB 617; and 4) reduce exposure from emissions associated with warehouse activities for communities located in the vicinity of a warehouse. PR 316 is a fee rule for Rule 2305, and serves as a mechanism for the collection of administrative fees to be paid by a warehouse operator subject to PR 2305 to recover administrative costs. As a result, PR 316 does not itself have the potential to physically impact the environment.

The proposed project implements Control Measure MOB-03 – Emission Reductions at Warehouse Distribution Centers, which is one of four Facility-Based Mobile Source Measures identified in the 2016 Air Quality Management Plan (AQMP) for the warehouse and distribution sector. The WAIRE Program applies to owners and operators of warehouses located in the South Coast AQMD's jurisdiction with greater than or equal to 100,000 square feet of indoor floor space in a single building that may be used for warehousing activities by one or more warehouse operators.

The initial compliance period encompasses three years from July 1, 2021 to June 30, 2024 in three phases. The phasing is based on warehouse size in square feet. Larger warehouses which are equal to or greater than 250,000 square feet will be subject to the first compliance period from July 1, 2021 to June 30, 2022. Warehouses which are equal to or greater than 150,000 square feet will be subject to the second compliance period from July 1, 2022 to June 30, 2023. Warehouses which are equal to or greater than 100,000 square feet will be subject to the third compliance period from July 1, 2023 to June 30, 2024.

Warehouse operators that are subject to the WAIRE Program must earn a certain number of WAIRE Points each compliance year. The required number of points depends on the number of weighted annual truck trips (WATTs), a stringency factor, and an annual variable, and is calculated by multiplying them together. WATTs include the number of all actual truck trips from Class 2b to Class 8 vehicles that occurred at a warehouse (e.g., the number of trips to and from the warehouse) while the warehouse operator was responsible for operations during the previous 12-month compliance period. If a warehouse is occupied by more than one warehouse operator, the WATTs are only the truck trips attributed to that operator. Warehouse operators would be required to count and report all of their trucks entering the warehouse's truck entrance to determine the WATTs in every compliance year.

A stringency factor is based on the following considerations: the air quality and public health need for emissions reductions from the WAIRE Program (e.g., worst air quality in the nation, exceedance of federal air quality standards, high pollution burdens for communities near warehouses), and impacts to industry (e.g., increased costs of warehouse operations, potential imposition of competitive disadvantages relative to other regions, and potential ancillary effects such as impacts to the electric grid from switching fuels to ZE trucks). The proposed project was analyzed for different stringency factors in a range from 0.0001 WAIRE Points per WATT to 0.0050 WAIRE Points per WATT. The currently proposed stringency factor for the proposed project is set at 0.0025 WAIRE Points per WATT.

The annual variable provides a phase-in of the proposed project's stringency and increases each compliance year, beginning at an annual variable of 0.33 in a warehouse's initial compliance year.

Full stringency would be achieved in a warehouse's third compliance year with an annual variable of 1.0. However, the annual variable is established relative to the proposed project's adoption and will not "reset" for new warehouses. For example, this means that a new warehouse built in year 2026 submitting its first Annual WAIRE Plan after July 1, 2027 would be subject to an annual variable of 1.0, or full stringency. The steady increase in the annual variable associated with the proposed project's phase-in schedule allows for a gradual increase in WPCO in the initial years following the adoption of the proposed project.

WAIRE Points can be earned by completing actions and investments from the following menu of implementation measures: 1) acquiring and/or using near-zero emissions (NZE) and ZE trucks; 2) acquiring and/or using ZE yard trucks; 3) installing and/or using ZE charging/fueling infrastructure (e.g., electric charger, hydrogen fuel station) for cars, trucks, and/or transport refrigerated units (TRUs); 4) installing and/or using onsite energy systems (e.g., solar panels); and 5) implementing community benefits (e.g., MERV 16 or greater filters or filter systems). Warehouse operators may also earn WAIRE Points through a Custom WAIRE Plan specific to their operation that satisfy prescribed performance metrics. In lieu of earning WAIRE Points through WAIRE Menu options or a Custom WAIRE Plan, or to supplement earned WAIRE Points to meet the WPCO, within each compliance year, a warehouse operator may choose to pay a mitigation fee to the South Coast AQMD that would be used in a mitigation program implemented by the South Coast AQMD to achieve the emissions reductions. It is estimated that 2,902 warehouses are likely required to earn WAIRE Points at the time of rule adoption. It is not possible to predict how individual warehouses subject to the WAIRE Program will comply, i.e., which specific compliance strategy (in the form of WAIRE Menu actions, a Custom WAIRE Plan, and/or the payment of a mitigation fee) they will undertake. Individual warehouse operators' compliance choices will likely depend on warehouse-specific factors, for example, the physical configuration of a warehouse, whether the operator owns a truck fleet, what their business needs are, etc.

As stated above, the proposed project has a phase-in compliance schedule, and the annual variable, which is used to gradually increase the WPCO, is tied to the phases.

5.3.2 Alternative A: No Project

Alternative A is the no project alternative. The no project alternative is required by CEQA Guidelines Section 15126.6(e)(2). The no project alternative consists of what would occur if the proposed project was not approved. The no project alternative allows decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative evaluates "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." (CEQA Guidelines Section 15126(e)(2)).

For purposes of this document, the no project alternative assumes that the WAIRE Program would not be implemented. This means that the existing and new warehouses located in the South Coast AQMD's jurisdiction with an indoor warehouse floor space equal to or greater than 100,000 square feet within a single building that may be used for warehousing activities by one or more warehouse operators, or use more than 50,000 square feet for warehousing activities in a building with multiple tenants, would not be required to meet their WPCO. The WPCO compliance strategies in the form of WAIRE Menu actions, a Custom WAIRE Plan, and/or the payment of the optional mitigation fee would not be implemented.

5.3.3 Alternative B: Decreased Emission Reductions

Alternative B consists of a version of the proposed project that would result in fewer emission reductions of NOx and PM2.5. Although it is possible for this to be achieved in a number of ways, for the purpose of this analysis, three ways have been identified and are discussed as follows. First, the applicability of the WAIRE Program is narrowed to reduce the number of affected warehouses. Specifically, the warehouse size requirement is increased from "greater than or equal to 100,000 square feet" to "greater than or equal to 200,000 square feet", such that the number of affected warehouses under Alternative B would decrease. Second, the beginning of the initial compliance and reporting dates are delayed by one year, such that the regulated warehouses would have a longer time period to plan for and phase in any actions that they would need to undertake to meet their WPCO. Third, the rule stringency is relaxed, such that the rule stringency factor for the proposed project is below 0.0025 WAIRE Points per WATT and could be as low as 0.0001 WAIRE Points per WATT. The WPCO compliance strategies such as the WAIRE Menu (all of the actions), a Custom WAIRE Plan, and/or the payment of optional mitigation fee at a cost of $1,000 per WAIRE Point to South Coast AQMD would not change. For the purpose of comparing alternatives to the proposed project as discussed in Section 5.4, Alternative B is considered to encompass all three elements (i.e., an increase in the size requirement, a delay in the initial compliance date, and a decrease in the rule stringency factor) to provide "book-ends" of the range of potential environmental impacts associated with Alternative B and a framework for understanding the greatest potential impacts when compared to the proposed project.

5.3.4 Alternative C: Increased Emission Reductions

Alternative C consists of a version of the proposed project that would result in greater emission reductions of NOx and PM2.5. Although it is possible for this to be achieved in a number of ways, for the purpose of this analysis, two ways have been identified and are discussed as follows. First, the applicability of WAIRE Program is broadened to increase the number of affected warehouses. Specifically, the warehouse size requirement of "greater than or equal to 100,000 square feet" is removed and all warehouses, regardless of their size, will be subject to the WAIRE Program. Second, the rule stringency is increased, such that the rule stringency factor for the proposed project is above 0.0025 WAIRE Points per WATT and could be as high as 0.0050 WAIRE Points per WATT. The three-year initial compliance period and WPCO compliance strategies such as the WAIRE Menu (all of the actions), a Custom WAIRE Plan, and/or the payment of optional mitigation fee at a cost of $1,000 per WAIRE Point to South Coast AQMD would not change. For the purpose of comparing alternatives to the proposed project as discussed in Section 5.4, Alternative C is considered to encompass both of elements (i.e., a decrease in the size requirement and an increase in the rule stringency factor) to provide "book-ends" of the range of potential environmental impacts associated with Alternative C and a framework for understanding the greatest potential impacts when compared to the proposed project

5.3.5 Alternative D: All Natural Gas Options Only

Alternative D is based on the currently proposed applicability and rule stringency factor for the proposed project0.0025 WAIRE Points per WATT. However, this alternative limits the number of actions on the WAIRE Menu that warehouse operators could select and implement to earn WAIRE Points. Specifically, the only actions allowed to earn WAIRE Points under Alternative D are related to the use of all natural gas equipment such as the acquisition and/or use of natural gas

trucks such as renewable natural gas (RNG) and/or LNG and installation and/or use of natural gas infrastructure. Alternative D limits the range of compliance actions on the WAIRE Menu as constraints. Other WPCO compliance strategies such as a Custom WAIRE Plan and/or the payment of optional mitigation fee at a cost of $1,000 per WAIRE Point to South Coast AQMD would still be available to use by warehouse operators to comply with the proposed project. However, the number and types of actions on the Custom WAIRE Plans under Alternative D that warehouse operators could select and implement to earn WAIRE Points would also be limited to the use of all natural gas equipment and would not include non-natural gas options. Therefore, the number and types of actions on the WAIRE Menu and Custom WAIRE Plans under Alternative D would not change.

5.3.6 Alternative E: All Electric Options Only

Alternative E is also based on the currently proposed applicability and rule stringency factor for the proposed project at 0.0025 WAIRE Points per WATT. However, this alternative limits the number of actions on the WAIRE Menu that warehouse operators could select and implement to earn WAIRE Points. Specifically, the only actions allowed to earn WAIRE Points under Alternative E are related to the use of all electric equipment such as the acquisition and/or use of all electric trucks and installation and/or use of ZE fueling or charging infrastructure. Alternative E limits the range of compliance actions on the WAIRE Menu as constraints. Other WPCO compliance strategies such as a Custom WAIRE Plan and/or the payment of optional mitigation fee at a cost of $1,000 per WAIRE Point to South Coast AQMD still be available to use by warehouse operators to comply with the proposed project. However, the number and types of actions on the Custom WAIRE Plans under Alternative E that warehouse operators could select and implement to earn WAIRE Points would also be limited to the use of all electric equipment and would not include non-electric options. Therefore, the number and types of actions on the WAIRE Menu and Custom WAIRE Plans under Alternative E would not change.

Table 5-1 provides a summary of the elements of each of the alternatives and compares them to the proposed project.

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Table 5-1
Summary of the Proposed Project and Alternatives

ELEMENT	PROPOSED PROJECT	ALT A No Project	ALT B Decreased Emission Reductions	ALT C Increased Emission Reductions	ALT D All Natural Gas Options Only	ALT E All Electric Options Only
Applicability	All warehouses with greater than or equal to 100,000 square feet of indoor floor space in a single building that may be used for warehousing activities by one or more warehouse operators, or more than 50,000 square feet for warehousing activities in a building with multiple tenants.	None.	Increased warehouse size requirement from "gre ater than or equal to 100,000 square feet" to "greater than or equal to 200,000 square feet".	Remove warehouse size requirement; all existing and future new warehouses would be subject to rule.	Same as the proposed project.	Same as the proposed project.
Initial Compliance Period	Initial compliance period encompasses three years from July 1, 2021 to June 30, 2024 and is broken up into three phases, based on warehouse size.	None.	Delaying the start of the initial compliance and reporting dates by one year later.	Same as the proposed project.	Same as the proposed project.	Same as the proposed project.
Rule Stringency Factor	0.0025 WAIRE Points per WATT.	None.	Decreased rule stringency factor.	Increased rule stringency factor.	Same as the proposed project.	Same as the proposed project.
Actions on the WAIRE Menu	Allows for the following: acquiring and/or using NZE and ZE trucks; acquiring and/or using ZE yard trucks; installing and/or using ZE charging/fueling infrastructure for cars, trucks, and/or TRUs; installing and/or using onsite solar panels; and installing high efficiency air filter systems in the community.	None.	Same as the proposed project.	Same as the proposed project.	Only allows for the acquisition and/or use of all natural gas trucks (e.g., RNG and/or LNG) and installation and/or use of natural gas infrastructure.	Only allows for the acquisition and/or use of all electric trucks and installation and/or use of ZE fueling or charging infrastructure.
Custom WAIRE Plan	WAIRE Points may be earned through a Custom WAIRE Plan for the warehouse that meets specified requirements. Custom WAIRE Plans are only potentially approvable if they include actions that are not already included in the WAIRE Menu.	None.	Same as the proposed project.	Same as the proposed project.	WAIRE Points may be earned through a Custom WAIRE Plan. Only allows for the acquisition and/or use of all natural gas trucks (e.g., RNG and/or LNG) and installation and/or use of natural gas infrastructure.	WAIRE Points may be earned through a Custom WAIRE Plan. Only allows for the acquisition and/or use of all electric trucks and installation and/or use of ZE fueling or charging infrastructure.
Optional Mitigation Fee	Payment of $1,000 per WAIRE Point to South Coast AQMD that will be used to achieve emissions reductions in lieu of or to supplement WAIRE Points earned.	None.	Same as the proposed project.	Same as the proposed project.	Same as the proposed project.	Same as the proposed project.

NOTE: ALT stands for "Alternative."

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5.4 COMPARISON OF ALTERNATIVES

5.4.1 Meeting Project Objectives

As stated in Chapter 2 of this EA, the project objectives of the proposed project are to: 1) reduce NOx and PM, including DPM, emissions and reduce associated public health impacts from warehouse activities; 2) facilitate local and regional emission reductions associated with warehouses and the mobile sources attracted to warehouses in order to assist in meeting federal and state air quality standards for ozone and PM2.5; 3) implement actions to reduce air pollution that disproportionally affects environmental justice communities in accordance with AB 617; and 4) reduce exposure from emissions associated with warehouse activities for communities located in the vicinity of a warehouse.

The extent to which each of the alternatives achieves the basic objectives of the proposed project as described in Chapter 2 of this EA has been evaluated below and summarized in Table 5-2. The proposed project would meet all of the project objectives. Although Alternative A, the no project alternative, is not capable of meeting any of the project objectives, it has been analyzed as required by CEQA. Alternatives B, C, D, and E are capable of meeting most of the project objectives.

- Alternative B is expected to result in fewer regional and local NOx and PM, including DPM, emission reductions than the proposed project. It would take a longer period to achieve the emission reductions that are needed to meet attainment of federal and state air quality standards for ozone and PM2.5 than the proposed project. Alternative B would also provide less public health protection against exposure to emissions from mobile sources in the communities in the vicinity of warehouses, such as AB 617 communities, than the proposed project.
- Alternative C is expected to result in greater regional and local NOx and PM, including DPM, emission reductions than the proposed project, which would help accelerate attainment of federal and state air quality standards for ozone and PM2.5. Alternative C would also provide greater public health protection against exposure to emissions from mobile sources in the communities in the vicinity of warehouses, such as AB 617 communities, than the proposed project.
- Alternative D is more prescriptive than the proposed project by limiting the emission reduction choices for warehouse operators to all natural gas NZE technology and infrastructure. However, since Alternative D does not include the acquisition and/or use of ZE trucks and yard trucks as allowable actions, it would likely result in fewer regional and local NOx and PM emission reductions than the proposed project. Additionally, Alternative D would not provide reductions against exposure to emissions from mobile sources in the communities in the vicinity of warehouses, such as AB 617 communities because it does not include MERV 16 or greater filters and filtration systems on the WAIRE Menu or Custom WAIRE Plan.
- Alternative E is more prescriptive and stringent than the proposed project by limiting the emission reduction choices for warehouse operators to all electric ZE technology and infrastructure. This alternative is expected to result in greater regional and local NOx and PM2.5 emission reductions than the proposed project, which would help accelerate attainment of federal and state air quality standards for ozone and PM2.5. However, due to the current market availability of electric trucks and yard trucks within the initial compliance period, compliance with this alternative might be challenging for warehouse operators. Additionally,

Alternative E would not provide reductions against exposure to emissions from mobile sources in the communities in the vicinity of warehouses, such as AB 617 communities on the WAIRE Menu or Custom WAIRE Plan.

Table 5-2
Comparison of the Proposed Project and Alternatives in Meeting Project Objectives

PROJECT OBJECTIVE	PROPOSED PROJECT	ALT A No Project	ALT B Decreased Emission Reductions	ALT C Increased Emission Reductions	ALT D All Natural Gas Options Only	ALT E All Electric Options Only
Reduce NOx and PM, including DPM, emissions and reduce associated public health impacts from warehouse activities	Yes	No	Yes (lesser extent)	Yes (greater extent)	Yes (lesser extent)	Yes (greater extent)
Facilitate local and regional emission reductions associated with warehouses and the mobile sources attracted to warehouses in order to assist in meeting federal and state air quality standards for ozone and PM2.5	Yes	No	Yes (lesser extent)	Yes (greater extent)	Yes (lesser extent)	Yes (greater extent)
Implement actions to reduce air pollution that disproportionally affects environmental justice communities in accordance with AB 617	Yes	No	Yes (lesser extent)	Yes (greater extent)	Yes (lesser extent)	Yes (greater extent)
Reduce exposure from emissions associated with warehouse activities for communities located in the vicinity of a warehouse	Yes	No	Yes (equal)	Yes (equal)	No	No

5.4.2 Environmental Impacts of Alternatives

Pursuant to the requirements in CEQA Guidelines Section 15126.6(b) to avoid or substantially lessen one or more of the significant effects that a project may have on the environment, the environmental impacts that are analyzed and considered to be significant for the proposed project in Chapter 4 of this EA are evaluated for the project alternatives and compared with the proposed project. Additionally, as shown in Table 5-2, Alternative C and Alternative D are expected to achieve most of the project objectives to a greater extent than the proposed project. This could lead to warehouse operators undertaking more activities undertake to comply with the proposed project. Therefore, in addition to considering the significant effects, it is important to consider and evaluate if Alternative C and Alternative D would result in new significant effects that the proposed project does not have. This section identifies the proposed project's environmental impact areas that are found to be no impact or less than significant and analyzes them for Alternative C and Alternative D as compared with the proposed project.

As stated above, Chapter 4 of this EA indicates that the proposed project's direct adverse environmental impacts would be potentially significant on 1) air quality during construction and overlapping construction and operations from the installation of EV chargers and hydrogen fueling stations, 2) GHG emissions during operations from the use of MERV 16 or greater filters and filtration systems and cargo growth diversion, 3) energy during operations from increased demand for electricity and increased need for EV charging infrastructure, 4) hazardous materials and solid and hazardous waste from removal of soil and construction debris that could be characterized as hazardous waste, and during operations with regards to impacts on recycling capacity from the increased disposal of batteries and hydrogen fuel cells and routine transport, use, or disposal of LNG fuel, and 5) transportation during operations (only with regards to truck VMT from potential warehouse relocation). Chapter 4 of this EA also indicates that the proposed project's indirect adverse environmental impacts, associated with development of new manufacturing facilities, recycling facilities, and grid improvements, would also be significant to air quality and GHG emissions, energy, hazardous materials and solid and hazardous waste, and transportation. This development, which is an indirect impact of the proposed project, could also lead to the proposed project's significant indirect impacts in the areas of Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Mineral Resources (with regards to long-term, operational-related impacts from increased demand for new mines and mining activities to meet increased use of lithium-based batteries for ZE vehicles), Noise, and Utilities and Service Systems. When comparing the overall effects of alternatives to a project that is designed to benefit the environment such as the proposed project, it is important to consider both adverse and beneficial effects. As such, Table 5-3 includes information about these direct and indirect significant environmental adverse impacts and long-term beneficial effects on the environment for each of the project alternatives and compares them with those of the proposed project. The purpose of this comparison is to identify ways to mitigate or avoid the proposed project's potentially significant adverse effects on the environment and to increase beneficial effects.

Pursuant to CEQA Guidelines Section 15126.6(d), a CEQA document "shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed." This section provides a discussion of the direct and indirect environmental impacts found to be significant for the proposed project and long-term beneficial effects of each alternative.

5.4.2.1 Alternative A: No Project

If Alternative A is implemented, the proposed project would not be adopted, and the proposed project's objectives would not be achieved. Although some emissions reductions could occur as a result of other regulations (e.g., the Advanced Clean Trucks Regulation and the Heavy-Duty Low NOx Omnibus Regulation) even without the proposed project, the acceleration of NOx and PM, including DPM, emissions reductions and the corresponding health benefits that would be achieved under the proposed project would not occur. The quantity of NOx and PM emissions currently generated from mobile sources and other sources of emissions associated with warehouses (the baseline) will continue to grow. Currently, the South Coast Air Basin is in non-

attainment for ozone and cannot achieve attainment unless NOx emission reductions occur. The 2016 AQMP[2] stated that the most significant air quality challenge in the South Coast Air Basin is to achieve an additional 45 percent reduction in NOx emissions in 2023 and an additional 55 percent NOx reduction beyond 2031 levels for ozone attainment. In addition, actions to reduce air pollution that disproportionally affects environmental justice communities in accordance with AB 617 would not occur if Alternative A is implemented.

When compared to the proposed project, Alternative A would result in no adverse direct impacts on air quality during construction and overlapping construction and operations because the installations of EV chargers (Scenario 6) and hydrogen fueling stations (Scenario 12) would not be needed. The no project alternative would also result in no impacts on GHG emissions during operations because the use of MERV 16 or greater filters and filtration systems (Scenario 15) would not be needed, and because cargo growth diversion that was assumed for the purpose of the environmental analysis would not occur. Additionally, because ZE trucks and yard trucks and supporting infrastructure would not be needed, implementation of Alternative A would not increase demand for electricity or expand infrastructure needs to support an increased use of ZE technology (e.g., electric trucks and yard trucks). It would also not increase construction waste attributable to the removal of soil or construction debris from demolition that could be characterized as hazardous waste, increase the need for routine transport, use, or disposal of LNG fuel, or increase disposal of batteries or hydrogen fuel cells, which could result in no impact the existing recycling infrastructure. According to the Industrial Economics Inc. Study[3], it is estimated that up to 10 warehouse relocations could still occur even without the proposed project[4]. As stated above, even though the proposed project is not expected to cause warehouse relocations, and because of the uncertainty of market responses, the environmental impact analysis in Chapter 4 conservatively assumes relocation of up to three warehouses, which would affect truck VMT. The no project alternative would result in less adverse impacts on transportation with regards to truck VMT than the proposed project because relocation of up to three warehouses and associated increases in truck VMT that were assumed for the proposed project would not result from this alternative.

When compared to the proposed project, Alternative A would result in no adverse indirect impacts on air quality and GHG emissions, energy, hazardous materials and solid and hazardous waste, and transportation because purchasing or using ZE trucks and yard trucks would not be required. Therefore, development of new manufacturing and recycling facilities to provide and fuel ZE trucks and yard trucks incentivized by the proposed project, as well as grid improvements, would not be needed. Furthermore, Alternative A's indirect environmental impacts in the areas of Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Mineral Resources (with regards to long-term operational-related impacts from increased demand for new mines and mining activities to meet increased use of lithium-based batteries for ZE vehicles), Noise, and Utilities, which could be indirectly caused by the development of new facilities and grid improvement, would not occur.

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[2] South Coast AQMD. March 3, 2017. *2016 Air Quality Management Plan*. Accessed at: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan

[3] Study will be included as an appendix to the socioeconomic analysis and is also located here: www.aqmd.gov/fbmsm

[4] Preliminary Draft Staff Report. January 2021. Accessed at: http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/preliminary-draft-staff-report.pdf

When considering the overall effects of Alternative A to the proposed project, although Alternative A has no adverse significant environmental impacts (both directly and indirectly), it does not have emissions reductions or public health protection benefits that the proposed project has.

5.4.2.2 Alternative B: Decreased Emission Reductions

If Alternative B is implemented, the WAIRE Program would result in fewer emission reductions of NOx and PM, including DPM. If the WAIRE Program applicability is narrowed and the currently proposed rule stringency factor is below 0.0025 WAIRE Points per WATT, Alternative B would result in less adverse direct impacts to air quality during construction than the proposed project because fewer EV chargers (Scenario 6) and hydrogen fueling stations (Scenario 12) would need to be constructed and fewer overlapping construction and operational activities. Construction activities are also temporary. Fewer MERV 16 or greater filters and filtration systems (Scenario 15) would also need to be installed and used, resulting in lower electricity demands and associated GHG emissions. Because Alternative B's rule stringency factor would be lower than the proposed project, this would likely lead to less cargo growth potentially being diverted to other ports and resulting in less GHG emissions from cargo growth diversion than the proposed project. Since fewer warehouses would likely select the ZE trucks and yard trucks and fueling stations to earn WAIRE Points, which would likely lead to a lower demand on utilities, Alternative B's demand for electricity and infrastructure needs would be reduced. Fewer warehouses subject to the WAIRE Program could mean fewer construction activities, which could lead to generation of less construction waste attributable to the removal of soil or construction debris from demolition that could be characterized as hazardous waste, and the number of batteries that need to be recycled would also be reduced, resulting in less adverse direct impact on the existing recycling infrastructure from exceeding their capacity. The amount, frequency, and duration of routine transport, use, or disposal of LNG fuel would be less than the proposed project. As a result, Alternative B would have less adverse direct impacts to energy and hazardous materials and solid and hazardous waste. Alternative B's potential impacts on transportation with regards to truck VMT from warehouse relocations would also be less adverse when compared to the proposed project since the lower rule stringency factor would likely lead to fewer than the three warehouse relocations that were assumed for analyzing the proposed project's transportation impacts.

If the compliance date is delayed, Alternative B is expected to result in similar direct impacts to air quality during construction, GHG emissions during operations, energy during operations with regards to demand and need for utilities and infrastructure to accommodate the use of ZE technology (e.g., electric trucks and yard trucks), hazardous materials and solid and hazardous waste from potentially hazardous construction waste and during operations with regards to impacts on landfill capacity from the increased disposal of batteries and hydrogen fuel cells, and transportation from truck VMT during operations with regards to warehouse relocations because a delayed compliance date merely gives warehouses more time to meet the WPCO without changes to the impacts from the proposed project. Having more time to comply is not expected to change how warehouses will need to meet the WPCO or change the compliance actions or activities.

Alternative B's indirect adverse environmental impacts on air quality and GHG emissions, energy, hazardous materials and solid and hazardous waste, and transportation would likely be less than the proposed project. Since fewer warehouses would be subject to the WAIRE Program, this could lead to a reduced use and demand of the ZE technology (e.g., electric trucks and yard trucks) and necessary supporting infrastructure that could indirectly lead to construction of fewer new manufacturing, battery recycling, and grid infrastructure facilities. The reduction in the number or

intensity of development of new facilities and grid improvement would likely lead to less adverse indirect environmental impacts in the areas of Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Mineral Resources (with regards to long-term operational-related impacts from reduced demand for new mines and mining activities because of the reduced use and demand of lithium-based batteries in ZE vehicles), Noise, and Utilities than the proposed project. If the compliance date is delayed, Alternative B's indirect adverse environmental impacts would be similar to the proposed project because having more time to comply with the proposed project is not expected to change how warehouses will need to meet the WPCO or change the compliance actions or activities and the level of significance for indirect adverse environmental impacts that could result.

When considering the overall effects of Alternative B to the proposed project, it should be noted that even though Alternative B could have less adverse direct and indirect environmental impacts than the proposed project, as indicated in Table 5-2, it would also have less NOx and PM, including DPM, emissions reductions and less reductions against exposure to emissions from mobile sources in the community in the vicinity of warehouse, such as AB 617 communities, than the proposed project. Therefore, Alternative B's ongoing, long-term, and permanent air quality and public health benefits would be less when compared to the proposed project.

5.4.2.3 Alternative C: Increased Emission Reductions

If Alternative C is implemented, the WAIRE Program would result in greater emission reductions of NOx and PM, including DPM. If the WAIRE Program applicability is broadened and the rule stringency factor is increased to be above 0.0025 WAIRE Points per, Alternative C would result in greater adverse direct impacts to air quality during construction than the proposed project because more warehouses subject to the WAIRE Program would mean potentially more EV chargers (Scenario 6) and hydrogen fueling stations (Scenario 12) would be constructed, and more overlapping construction and operational activities would occur. There would likely be increases in the amount and duration of construction activities, construction equipment, and construction workers' trips that would take place under this alternative than the proposed project. However, it is important to note that the increases in construction emissions would be short-term as construction activities are temporary.

Additionally, more warehouses subject to the WAIRE Program could mean potentially more MERV 16 or greater filters and filtration systems (Scenario 15) would be installed for use under Alternative C, resulting in higher electricity demands and generating higher GHG emissions during operations than the proposed project. Because Alternative C's rule stringency factor would be higher than the proposed project, and because it is not reasonably foreseeable to predict how cargo shippers would respond to the increased rule stringency factor, this analysis assumes that implementation of Alternative C would likely lead to more cargo growth being potentially diverted to other ports and generate greater GHG emissions than the proposed project.

With more electric trucks and yard trucks, EV chargers, and hydrogen fueling stations, Alternative C is expected to increase demand for electricity, expand the need for EV charging and hydrogen fueling infrastructure, and generate more batteries and hydrogen fuel cells that would need be disposed of at the existing recycling facilities that could exceed their capacity. Moreover, more EV chargers and fueling stations that would need to be built to earn WAIRE Points could lead to an increase in the amount of construction waste that could be characterized as hazardous waste. Moreover, because a market-wide commercial deployment of NZE trucks such as LNG trucks are

already commercially available at the time of this EA, it is reasonably foreseeable that more warehouses would select the use of LNG trucks to earn WAIRE Points, and this could lead to an increase in the amount, frequency, and duration of routine transport, use, or disposal of LNG fuel than the proposed project. Alternative C will likely have greater adverse direct impacts on energy and hazardous materials and solid and hazardous waste than the proposed project. Although it is uncertain if smaller warehouses, i.e., warehouses of less than 100,000 square feet in size, would relocate under Alternative C, it is expected that the impacts to transportation from truck VMT caused by warehouse relocations could be greater when compared to the proposed project.

Alternative C's indirect adverse environmental impacts on air quality and GHG emissions, energy, hazardous materials and solid and hazardous waste, and transportation would likely be greater than the proposed project. Since more warehouses would be subject to the WAIRE Program, this could lead to an increased use and demand of the ZE technology (e.g., electric trucks and yard trucks) and necessary supporting infrastructure that could indirectly lead to construction of more manufacturing and battery recycling facilities, and more improvements to the electrical grid. The increase in the number or intensity of development of new facilities and grid improvement would likely lead to greater adverse indirect environmental impacts in the areas of Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Mineral Resources (with regards to long-term operational-related impacts from increased demand for new mines and mining activities to meet increased use and demand of lithium-based batteries in ZE vehicles), Noise, and Utilities than the proposed project.

CEQA requires that the focus of alternatives is on those that are capable of avoiding or substantially lessening any significant effects of the project (CEQA Guidelines Section 15126.6(b)). As analyzed above, Alternative C could lead to greater environmental adverse impacts than the proposed project. It is important to consider if Alternative C could also result in new significant adverse environmental impacts that the proposed project does not have. As stated in Chapter 4 of the EA, the proposed project would have no impact or less than significant adverse environmental impacts, both directly and indirectly, from development of new manufacturing, recycling, and grid improvement facilities, on the following five environmental topic areas: 1) Land Use and Planning; 2) Population and Housing; 3) Public Services; 4) Recreation; and 5) Wildfire. Therefore, this EA considers and analyzes whether Alternative C could result in new significant adverse environmental impacts that were found to be less than significant for the proposed project. As analyzed in detail below, Alternative C's direct and indirect environmental impacts would be similar and continue to be less than significant when compared to the proposed project in all five environmental topic areas.

5.4.2.3.1 Land Use and Planning

The increased number of warehouses under this alternative is expected to lead to installation of an increased number of ZE charging and fueling infrastructure, solar panels, and MERV 16 or greater filters and filtration systems. The additional construction, which is a direct impact, is expected to be sited in locations with appropriate land use and zoning designations established by local jurisdictions. Although more manufacturing, recycling, and grip improvement facilities could be built under this alternative, this development, which is an indirect impact, is expected to go through independent environmental review at the appropriate federal, state, and/or local level and is assumed to be located in areas with appropriate land use and zoning designations. This development could require additional construction workers and associated housing for these workers. However, not only are construction activities temporary and short-term, the development

is expected to employ labor from the existing construction workforce. Additionally, activities that would result directly or could result indirectly from compliance with the WAIRE Program under this alternative would be subject to project-level review, including review of land use and planning impacts under CEQA, as applicable. Therefore, Alternative C's impact on land use and planning is similar to the proposed project and would be less than significant.

5.4.2.3.2 Mineral Resources (during Construction)

The increased number of warehouses under this alternative is expected to lead to installation of an increased number of ZE charging and fueling infrastructure, solar panels, and MERV 16 or greater filters and filtration systems. However, the additional construction, which is a direct impact, is expected to take place near existing warehouses and in areas with the appropriate land use and zoning designations (e.g., industrial uses) established by local jurisdictions. Although Alternative C could lead to construction of more manufacturing and battery recycling facilities, and more improvements to the electrical grid, the development, which is an indirect impact, is also expected be constructed in areas with the appropriate land use and zoning designations. Additionally, construction activities are short-term and temporary. Therefore, additional construction activities that could result directly and indirectly from Alternative C are not expected to result in the loss of availability of known mineral resources that have value to the region and the residents of the state or of a locally-important mineral resource recovery site or a location as having known mineral resources shown on a local general plan, specific plan, other land use plan. Alternative C's direct and indirect impact on mineral resources from short-term, construction activities is similar to the proposed project and would be less than significant.

5.4.2.3.3 Population and Housing

Similar to the proposed project, Alternative C is also not expected to generate population growth or displacement of substantial numbers of existing people or housing necessitating the construction of replacement housing elsewhere because Alternative C does not include development or removal of housing. Additionally, the development of new manufacturing, recycling, and grid improvement facilities is expected to be located in appropriately zoned and planned areas for industrial and manufacturing uses. The development, which is an indirect impact, would be subject to project-level review and is expected to be consistent with local and regional growth forecasts and housing plans and policies. Therefore, Alternative C's impact on population and housing is similar to the proposed project and would be less than significant.

5.4.2.3.4 Public Services

The increased number of warehouses that would be subject to the WAIRE Program under this alternative is not expected to increase fire, police, or emergency medical services that have already been provided to and required by the warehouses. It is also expected that Alternative C would not create a need for new or expansion of existing schools, parks, or library services because this alternative is not expected to induce population growth. Although Alternative C could lead to the installation of more ZE charging and fueling infrastructure, which is a direct impact, and the development of more manufacturing, recycling, and grip improvement facilities, which is an indirect impact, these activities would be subject to project-level review and is expected to meet all necessary fire codes and safety requirements established by local agencies and jurisdictions. Therefore, Alternative C's impact on public services is similar to the proposed project and would be less than significant.

5.4.2.3.5 Recreation

The need for recreational facilities and parks is tied with land use, zoning designation, and population growth. As analyzed above, since Alternative C is expected to result in less adverse direct and indirect impacts on Land Use and Planning, and Population and Housing, this alternative's impact on recreation would likely be similar to the proposed project and would be less than significant.

5.4.2.3.6 Wildfire

The increased number of warehouses under this alternative is expected to lead to installation of more ZE charging and fueling infrastructure, solar panels, and MERV 16 or greater filters and filtration systems. This direct increase, coupled with the indirect increase in the development of manufacturing, recycling, and grid improvement facilities to support the increased use of ZE trucks and yard trucks, could add new equipment and structures (e.g., power lines and other utilities) facing wildfire risks. However, these new equipment, structures, and development would be expected to be required to comply all applicable fire protection and safety regulations established by federal, state, or local government, and prevention measures established by electric utilities to reduce wildfire hazards. Additionally, activities that would result directly or could result indirectly from compliance with the WAIRE Program under this alternative would be subject to project-level review, including review of wildfire impacts under CEQA, as applicable. Therefore, Alternative C's impact on wildfire is similar to the proposed project and would be less than significant.

When considering the overall effects of Alternative C to the proposed project, it is important to note that even though Alternative C's adverse effects on the environment could be greater than the proposed project in some areas, some of the adverse effects are indirect (e.g., associated with the development of new manufacturing, battery recycling, and grid improvement facilities) and would result but from short-term, temporary construction activities. Moreover, Alternative C's beneficial effects on the environment would be long-term and permanent. As indicated in Table 5-2, Alternative C would have greater NOx and PM, including DPM, emissions reductions than the proposed project, and these reductions would be ongoing. Alternative C would also have greater reductions against exposure to emissions from mobile sources in the communities in the vicinity of warehouse, as such AB 617 communities, than the proposed project. Therefore, Alternative C's ongoing, long-term, and permanent benefits on air quality and public health would outweigh its adverse environmental impacts.

5.4.2.4 Alternative D: All Natural Gas Options Only

Under Alternative D, warehouse operators would be limited to the acquisition and/or use of natural gas trucks (RNG and/or LNG) and installation and/or using natural gas infrastructure. None of the other items on the WAIRE Menu would not be allowed to earn points to meet the WPCO.

Alternative D is expected to result in less adverse direct impacts on air quality during construction and overlapping construction and operations. Since EV chargers (Scenario 6) and hydrogen fueling stations (Scenario 12) would not be included as actions available on the WAIRE Menu, they would not be built or installed as a result of implementing Alternative D, resulting in less construction activities, construction equipment, materials deliveries, and construction workers' trips. Construction activities are also temporary.

Alternative D would not use ZE trucks and yard trucks or fueling infrastructure, the need for additional electricity demands and energy infrastructure would not exist. Alternative D would not

generate batteries and hydrogen fuel cells, and the need to recycle them at the existing recycling infrastructure would not exist. Additionally, since natural gas fueling stations are already commercially available, the need for building new natural gas fueling stations and infrastructure would not be as great as for EV chargers and hydrogen fueling stations when compared to the proposed project, and the amount of construction waste that could be characterized as hazardous waste would not be as great as the proposed project. However, Alternative D would accelerate and increase the use of NZE trucks such as LNG trucks. This could lead to a substantial increase in the amount, frequency, and duration of routine transport, use, or disposal of LNG fuel than the proposed project and a potentially greater adverse impact on hazardous materials and solid and hazardous waste.

Alternative D could also have less adverse direct impacts on GHG emissions during operations than the proposed project because it would not result in increased use of MERV 16 or greater filters and filtration systems (Scenario 15), thereby reducing electricity uses and associated GHG emissions. The demands for renewable energy for RNG trucks could increase, but the use of RNG trucks, instead of diesel fueled trucks, could potentially generate more GHG emissions reductions. When Alternative D does not include MERV 16 or greater filters and filtration systems on the WAIRE Menu or Custom WAIRE Plans, their installation would not be needed, and construction waste that could be characterized as hazardous waste from the installation would be further reduced than the proposed project.

Because natural gas trucks and infrastructure are more commercially available and currently being deployed in the market, it is expected that it could be less costly to comply with the WPCO under Alternative D than the proposed project. Therefore, Alternative D is expected to have less adverse transportation impacts from truck VMT than the proposed project because it would likely lead to fewer than three warehouse relocations, and smaller increases in truck VMT that could result from warehouse relocations than the proposed project.

Alternative D's indirect adverse environmental impacts on air quality and GHG emissions, energy, hazardous materials and solid and hazardous waste, and transportation could be less than the proposed project. Since warehouses subject to the WAIRE Program under this alternative would not need to use the ZE technology (e.g., electric trucks and yard trucks) or install EV chargers and hydrogen fueling stations, the development of new facilities, including manufacturing, recycling, and grid infrastructure facilities would not be needed. This would likely lead to less adverse indirect environmental impacts in the areas of Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Mineral Resources (with regards to long-term operational-related impacts from increased demand for new mines and mining activities because the use and demand of lithium-based batteries in ZE vehicles would not be needed), Noise, and Utilities than the proposed project.

When considering the overall effects of Alternative D to the proposed project, it should be noted that even though Alternative D could have less adverse direct and indirect environmental impacts than the proposed project, as indicated in Table 5-2, it would also have less NOx and PM, including DPM, emissions reductions than the proposed project. NZE trucks result in approximately 90 percent of reductions in NOx emissions and some PM emissions reductions while electric trucks result in 100 percent of NOx and PM emissions reductions. Additionally, all of the compliance options for Alternative D would require emission reductions, but Alternative D would not provide reductions against exposure to emissions from mobile sources in the community in the vicinity of warehouse, such as AB 617 communities that the proposed project provides. Alternative D does

not include MERV 16 or greater filters and filtration systems on the WAIRE Menu or Custom WAIRE Plans. Therefore, Alternative D's ongoing, long-term, and permanent air quality benefits as well as reductions against exposure to emissions from mobile sources could be less when compared to the proposed project.

5.4.2.5 Alternative E: All Electric Options Only

Under Alternative E, warehouse operators would be limited to the use of ZE technology (e.g., electric trucks and yard trucks) and supporting charging infrastructure. All other items on the WAIRE Menu would not be allowed to earn points to meet the WPCO.

Alternative E is expected to have similar air quality impacts directly resulted from construction and overlapping construction and operations to those for the proposed project because limiting the WAIRE Menu actions to installations of EV charger (Scenario 6) and hydrogen fueling station (Scenario 12) under this alternative would not increase the number or intensity of construction activities for these two modeled WAIRE Points scenarios. Construction activities are also temporary. Although electricity uses for electric trucks and yard trucks and associated GHG emissions could increase under Alternative E, this increase could be partially offset by the reductions of electricity uses and GHG emissions associated with the use of MERV 16 or greater filters and filtration systems (Scenario 15) because filters and filtration systems would no longer be on the WAIRE Menu or Custom WAIRE Plans. Therefore, Alternative E could have less adverse direct impacts on GHG emissions during operations than the proposed project. The magnitude of additional electricity demands and energy infrastructure and the amount of EV batteries and hydrogen fuel cells would be similar to the proposed project since some of the modeled WAIRE Points scenarios already accounted for the possibility of all ZE serving the warehouses subject to the WAIRE Program. Therefore, Alternative E would have similar direct impacts on energy during operations and hazardous materials and solid and hazardous waste with regards to exceeding the capacity of the existing recycling infrastructure to meet the recycling of batteries and hydrogen fuel cells. Additionally, Alternative E's direct impact on hazardous materials and solid and hazardous waste from construction waste that could be characterized as potentially hazardous would not be as great as the proposed project because of the similar amount of ZE serving the warehouses, and because construction debris from installing MERV 16 or greater filters and filtration systems would not exist. Since the use of NZE trucks such as LNG trucks would not be included on the WAIRE Menu or Custom WAIRE Plans, Alternative E's direct impact on hazardous materials and solid and hazardous waste from routine transport, use, or disposal of LNG fuel would not exist. When the only available compliance option is the ZE technology, and a market-wide commercial deployment of ZE technology, particularly in trucks, is not currently available at the time of this EA, Alternative E is likely to cause more warehouses that are not able to use the ZE technology to relocate outside the South Coast AQMD's jurisdiction, thereby resulting in greater adverse transportation impacts on truck VMT from warehouse relocation than the proposed project.

Alternative E's indirect adverse environmental impacts on air quality and GHG emissions, energy, hazardous materials and solid and hazardous waste, and transportation could be greater than the proposed project. Since the only available compliance option is the ZE technology, this could lead to an increased use and demand of the ZE technology (e.g., electric trucks and yard trucks) and necessary supporting infrastructure that could indirectly lead to construction of more manufacturing and battery recycling facilities, and more improvements to the electrical grid. The increase in the development of new facilities and grid improvement would likely lead to greater

adverse indirect environmental impacts in the areas of Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Mineral Resources (with regards to long-term operational-related impacts from increased demand for new mines and mining activities because of the increased use and demand of lithium-based batteries in ZE vehicles), Noise, and Utilities than the proposed project.

As shown in Table 5-1, Alternative E is capable of meeting most of the project objectives to a greater extent. It is important to consider if this alternative could result in new significant adverse environmental impacts that the proposed project does not have. Chapter 4 of the EA indicates that the proposed project would have no impact or less than significant adverse environmental impacts, both directly and indirectly from development of new manufacturing, recycling, and grid improvement facilities on the following five environmental topic areas: 1) Land Use and Planning; 2) Population and Housing; 3) Public Services; 4) Recreation; and 5) Wildfire. Similar to the analysis for Alternative C in Section 5.4.2.3, Alternative E's direct and indirect environmental impacts would be similar and continue to be less than significant when compared to the proposed project in all five environmental topic areas.

Even though Alternative E's direct impacts on air quality and GHG emissions, and hazardous materials and solid and hazardous waste would be less than or similar to the proposed project, its transportation impacts with regards to truck VMT could be greater than the proposed project. Alternative E's indirect impacts from the development of new manufacturing, recycling, and grid improvement facilities could also be greater than the proposed project. All of the compliance options for Alternative E would require emission reductions. Alternative E could have greater NOx and PM, including DPM, emissions reductions than the proposed project; however, using only the ZE technology might be challenging for some warehouse operators at the beginning. When considering the overall effects of Alternative E to the proposed project, it is important to note that Alternative E is intended to further accelerate the use of ZE technology than the proposed project to make it more available and less costly. Alternative E's ongoing, long-term, and permanent air quality benefits could be greater overtime than the proposed project. However, because Alternative E does not include MERV 16 or greater filters and filtration systems on the WAIRE Menu or Custom WAIRE Plans, it would not provide reductions against exposure to emissions from mobile sources in the community in the vicinity of warehouse, such as AB 617 communities that the proposed project provides.

5.5 ALTERNATIVES REJECTED AS INFEASIBLE

In accordance with CEQA Guidelines Section 15126.6(c), a CEQA document should identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. CEQA Guidelines Section 15126.6(c) also states that among the factors that may be used to eliminate alternatives from detailed consideration in a CEQA document are: 1) failure to meet most of the basic project objectives; 2) infeasibility; or, 3) inability to avoid significant environmental impacts.

As noted in the Introduction of this chapter, the range of feasible alternatives to the proposed project is limited by the nature of the proposed project and the scope of indirect source rule authority granted to local air districts (Health and Safety Code Sections 40716(a)(1), 40440). Similarly, the range of alternatives considered, but rejected as infeasible is also relatively limited.

As discussed in Appendix C of the EA, South Coast AQMD received public comments on the NOP/IS for the proposed project. One public comment recommended that the EA evaluate and consider alternatives such as stricter engine emission standards to be adopted by the California Air Resources Board (CARB) and implementation of stricter truck emission standards at the ports of Los Angeles and Long Beach. The alternatives that the comment recommended are outside the scope of the South Coast AQMD's legal authority and ability to enforce as an air district; therefore, they have not been included in Chapter 5 of this EA. South Coast AQMD does not have the authority to require CARB to adopt stricter engine emission standards nor is that in the scope of the analysis of this EA. South Coast AQMD does not have the authority over truck emission standards at the ports. U.S. Environmental Protection Agency and CARB have primary authority to regulate emissions from mobile sources (see Response to Comment 8-7 in Appendix C of this EA).

The following discussion identifies Alternative A, as being rejected due to its failure to meet most of the basic project objectives.

CEQA documents typically assume that the adoption of the No Project alternative would result in no further action on the part of the project proponent or lead agency. For example, in the case of a proposed land use project such as a housing development, adopting the No Project alternative terminates further consideration of that housing development or any housing development alternative identified in the associated CEQA document. In that case, the existing setting would typically remain unchanged.

"The 'no project' analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced*, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services*…" (CEQA Guidelines Section 15126.6(e)(2)). It should be noted that, although the no project alternative may have fewer adverse environmental impacts than the proposed project, it also would have fewer environmental benefits, in particular air quality benefits if no further action is taken. Additionally, although there are other existing rules that may have future compliance dates for NOx emission reductions, potential adverse impacts from these rules have already been evaluated in the March 2017 Final Program EIR for the 2016 AQMP and their subsequent rule-specific CEQA documents. While air quality would continue to improve to a certain extent, it is unlikely that all state or federal ozone standards would be achieved as required by the federal and California CAAs. It is possible that the federal 24-hour PM2.5 standard may be achieved; however, it is unlikely that further progress would be made towards achieving the state PM2.5 standard as required by the California CAA.

5.6 LOWEST TOXIC ALTERNATIVE

In accordance with South Coast AQMD's policy document Environmental Justice Program Enhancements for FY 2002-03, Enhancement II-1 recommends for all South Coast AQMD CEQA documents which are required to include an alternatives analysis, the alternatives analysis shall also include and identify a feasible project alternative with the lowest air toxics emissions and/or exposure. In other words, for any major equipment or process type under the scope of the proposed project that creates a significant environmental impact, at least one alternative, where feasible,

shall be considered from a "least harmful" perspective with regard to hazardous or toxic air pollutants.

As explained in the existing setting for air quality and GHG emissions in Chapter 3, DPM, which is a toxic air contaminant and carcinogen, is the largest contributor to cancer risk within the South Coast Air Basin[5]. Implementation of the proposed project would achieve emission reductions not only from NOx and PM, including DPM, emitted from mobile sources and other sources of emissions associated with a warehouse. Of the actions and investments available on the WAIRE Menu, the main technology that can be used to earn the highest WAIRE Points and provide the greatest potential emissions reductions in NOx and PM, including DPM, are related to acquiring and using ZE technology. The top three high earning WAIRE Menu actions are installation of hydrogen station (1,680 WAIRE Points), use of ZE yard trucks (291 WAIRE Points), and acquiring ZE yard trucks (177 WAIRE Points).

To identify a lowest toxic alternative with respect to the proposed project, it would be the alternative that provides the highest DPM emission reductions or exposure reduction from warehousing activity emissions. Based on the available emission reduction options, the implementation of ZE technology would accomplish the greatest amount of PM and DPM emission reductions. For the proposed project and Alternatives B, C, and E, it is assumed that ZE trucks and fueling and/or charging infrastructure would be available compliance options. Alternatives A and D would not include ZE technology as available compliance options. For exposure reduction, the installation of high efficiency air filters and filter systems would provide the greatest level of benefit. For the proposed project, and Alternatives B and C, the installation of high efficiency air filters and filter systems are available compliance options while Alternatives D and E remove this compliance option.

Under Alternative C, all of the existing and new warehouses in the South Coast AQMD's jurisdiction are subject to the WAIRE Program, which could result in a greater use of ZE technology when compared to the proposed project. Under Alternative E, all affected warehouses would be required to only use ZE technology, which would also result in a greater use of ZE technology when compared to the proposed project. However, Alternative C would allow for exposure reduction from the installation of high efficiency air filters and filter systems while Alternative E would not. Therefore, Alternative C is the lowest toxic alternative.

5.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Pursuant to CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the "no project" alternative, the CEQA document shall also identify an alternate environmentally superior alternative from among the other alternatives. Based on the analysis above in Section 5.4, Table 5-3 summarizes the comparison of the adverse environmental impacts and long-term beneficial effects of the proposed project with the alternatives for the environmental direct and indirect impact areas where the proposed project was concluded to have a significant adverse impact. When evaluating the environmentally superior alternative for a project that is designed to benefit the environment such as the proposed project, it is important to consider both adverse impacts and beneficial effects.

[5] Final Report, Multiple Air Toxics Exposure Study, MATES-IV, available at https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iv.

Table 5-3
Comparison of Significant Adverse Environmental Impacts and Long-term Beneficial Effects of the Proposed Project and Alternatives

PROPOSED PROJECT	ALTERNATIVE A No Project	ALTERNATIVE B Decreased Emission Reductions	ALTERNATIVE C Increased Emission Reductions	ALTERNATIVE D All Natural Gas Options Only	ALTERNATIVE E All Electric Options Only
Despite the significant adverse direct and indirect environmental impacts, it provides ongoing, long-term, and permanent NOx and PM, including DPM, emissions reductions benefits, reduces exposures, and protects public health.	Although Alternative A has no adverse significant environmental impacts (both directly and indirectly), it does not have emissions reductions or exposure reductions benefits that the proposed project has.	Although Alternative B has less adverse significant environmental impacts (both directly and indirectly), its ongoing, long-term, and permanent NOx and PM, including DPM, emissions reductions would also be less. It also provides less exposure reductions and overall less public health protection.	Despite the greater significant adverse impacts (both directly and indirectly in some areas), Alternative C provides greater NOx and PM, including DPM, emissions reductions that are ongoing, long-term, and permanent. It also provides greater exposure reductions and overall greater public health protection.	Although Alternative D has less or sometimes no adverse significant environmental impacts (both directly and indirectly), its ongoing, long-term, and permanent NOx and PM, including DPM, emissions reductions would also be less. It does not provide exposure reductions and overall less public health protection.	Although Alternative E's direct environmental impact on transportation from truck VMT are greater, and its indirect environmental impacts are also greater, it provides greater NOx and PM, including DPM, emissions reductions that are ongoing, long-term, and permanent over time overtime. It does not provide exposure reductions and overall less public health protection.

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Of the five alternatives, Alternative A would generate the least severe and fewest number of adverse environmental impacts, both directly and indirectly. However, Alternatives A is rejected as infeasible because it is not capable of meeting any of the project objectives. Importantly, this alternative would not result in emissions reductions of NOx or PM, including DPM. Alternative B and Alternative D are similar in that both have less adverse direct and indirect impacts and less environmental benefits. Alternative C and Alternative E are similar in that both have greater direct and indirect impacts in some environmental areas. However, Alternative E does not have the ability to provide exposure reductions to emissions that Alternative C has. Alternative C could have the greatest potential NOx and PM, including DPM, emissions reductions among the five alternatives. It could also provide the greatest protections against exposures to these emissions when compared to the other alternatives. Despite Alternative C's significant adverse impacts, from the perspective of providing ongoing, long-term, and permanent air quality benefits and protection against exposures to mobile source emissions, Alternative C would be considered the environmentally superior alternative.

5.8 CONCLUSION

When comparing the environmental adverse impacts and evaluating the effectiveness of achieving the project objectives and providing long-term, permanent beneficial effects of the project alternatives, particularly Alternative C which would be considered as the lowest toxic alternative and environmentally superior alternative to the proposed project, the proposed project balances achieving the project objectives and the potential adverse impacts.

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CHAPTER 6 OTHER CEQA CONSIDERATIONS

6.1 INTRODUCTION

This section of the EA includes a brief summary of the potential environmental impacts found to be less than significant, significant and unavoidable impacts of the project, significant irreversible environmental changes, potential growth-inducing impacts, and the relationship between short-term and long-term environmental goals associated with the proposed project.

6.2 POTENTIAL ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT

The November 2020 Notice of Preparation of a Draft EA and Initial Study (see Appendix B) concluded that the proposed project would have no impact or less than significant direct or indirect adverse effects on the following environmental topic areas[1]:

- Air Quality and Greenhouse Gas Emissions (AQMP Consistency, Diminishing Air Quality Rules, and Odors)
- Energy (Consistency with Energy Plans, Compliance with Standards. and Wasteful/Inefficient Use of Energy)
- Solid and Hazardous Waste
- Transportation (Traffic Hazards and Emergency Access)
- Wildfire

In addition, the following environmental impacts were identified as less than significant in this EA:

- **Air Quality and Greenhouse Gas Emissions** – Long-term air quality impacts and consistency of the proposed project with GHG reduction plans are less than significant impacts of the proposed project.
- **Energy –** Energy impacts for the proposed project are less than significant during construction.
- **Hazardous Materials and Solid and Hazardous Waste** - Impacts from routine transport, use, or disposal of batteries would be less than significant as a result of implementing the proposed project.
- **Transportation** – Transportation impacts from construction and employee commute trips would be less than significant as a result of implementing the proposed project.

[1] Impacts of battery recycling are addressed in the Hazards and Hazardous Materials section of this EA as a result of public comments received during the public review and comment period on the Initial Study. Indirect impacts to Aesthetics, Agricultural and Forestry Resources, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, and Utilities and Service Systems are evaluated in Chapter 4.5 of this EA.

6.3 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

CEQA Guidelines Section 15126(b) requires an environmental analysis to consider "any significant environmental effects which cannot be avoided if the proposed project is implemented." This EA identified the following environmental topic areas having potentially significant adverse environmental affects if the proposed project is implemented:

- **Air Quality and Greenhouse Gas Emissions** – Construction-related air quality impacts (Scenario 6 and Scenario 12); impacts during overlap of construction and operational activities (near-term impacts for Scenario 6 and Scenario 12); indirect construction-related air quality emissions associated with the construction of new manufacturing and recycling facilities, and energy infrastructure for NZE and ZE vehicles; and GHG impacts (Scenario 15 and from cargo growth diversion) are significant unavoidable impacts of the proposed project. The short-term construction-related air quality impacts and the long-term GHG emissions impacts are the project's cumulative contribution to air quality and GHG emissions impacts.

- **Energy.** Impacts associated with the with the need for new or substantially altered utility systems, new and expanded infrastructure, and effects on peak and base period electricity demands are significant and unavoidable impacts of the proposed project. The proposed project expedites the need for expanded electricity infrastructure to accommodate electric vehicles. SCE plans for and accommodates the need for electrical grid infrastructure expansions and improves through the biennial Integrated Energy Policy Report (IEPR) and is forecasting an increase in energy demand from ZE vehicles. While the IEPR is considering the cumulative effect of N-79-20, which would ultimately shift California's transportation economy carbon neutral energy sources, the proposed project would expedite this timeline for ZE heavy duty trucks. South Coast AQMD is actively coordinating with SCE to ensure that IEPR considers the potential cumulative effect of the proposed project. However, since the proposed project expedites need for electricity, natural gas fueling, and hydrogen fueling infrastructure to accommodate the electricity demand created by the proposed project this is considered a significant impact. However, the proposed project is part of a larger transition from diesel and petroleum to alternative energy for the transportation sector. This transition itself provides energy benefits. Further, it should be noted that the energy analysis is a conservative, "worst case" analysis based on the WPCO scenarios if all warehouse operators selected the scenario as the sole compliance option. As a result, the actual energy use would range depending on the WPCO selected and the actual construction and operational impacts are not expected to be as great as estimated in this EA.

- **Hazardous Materials and Solid and Hazardous Waste** – Impacts from storage and use of LNG fuel are significant and unavoidable impacts of the proposed project. The proposed project would result in a substantial increase in the batteries that would exceed the capacity of the existing recycling infrastructure. This increase in demand would cumulatively contribute to the increase in demand for battery recycling as a result of transition to a carbon neutral economy, in accordance with the State's GHG reduction goals. However, there are currently no federal, State, or local regulations that require the recycling industry to forecast the capacity of infrastructure needed to meet the demand. There are no mitigation measures that would ensure that battery recyclers can accommodate the proposed project's and cumulative increase in volume of EV batteries. Therefore, project and cumulative impacts associated with the capacity of battery recycling infrastructure to accommodate the additional demand is

significant and unavoidable. The proposed project could also result in an increase of scrapped vehicles to landfills and construction waste, resulting in significant impacts to landfill facility capacity. In addition, the proposed project could indirectly result in the construction of new manufacturing facilities, recycling facilities, and infrastructure improvements to support the transition to NZE and ZE vehicles, which would create significant impacts regarding hazards and hazardous materials through the routine transport, use, or disposal of hazardous materials.

- **Transportation** – Truck VMT would increase compared to the baseline under the "worst-case" relocations analysis and potential decreases in goods movement efficiency if warehouse operators divert truck trips. Therefore, truck VMT is considered a significant unavoidable project and cumulative transportation impact. In addition, potential indirect transportation impacts resulting from the construction of new manufacturing facilities, recycling facilities, and infrastructure improvement to support the transition to NZE and ZE vehicles would also be significant and unavoidable impacts of the proposed project. It should be noted that the transportation analysis is a conservative, "worst case" analysis and the IEc Study indicates that under the current Rule Stringency that no relocations would occur. Additionally, while the proposed project could result in a potential increase in truck VMT, there could be a substantial reduction in the amount of VMT from diesel-fueled trucks and commensurate increase in VMT from NZE and ZE trucks, which is consistent with statewide efforts to reduce emissions and the intent of SB 743.

In addition, indirect impacts associated with the proposed project are identified in this EA as having potentially significant adverse environmental effects in the following topic areas:

- **Indirect Impacts**: Potential indirect impacts to Aesthetics, Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, and Noise resulting from the construction and operational phases of new manufacturing facilities, recycling facilities, and infrastructure improvement to support the transition to NZE and ZE vehicles would be significant and unavoidable. Impacts to Mineral Resources and Utilities and Service Systems during the operational phase will also be significant and unavoidable.

6.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines Section 15126(c) requires an environmental analysis to consider "any significant irreversible environmental changes which would be involved if the proposed action should be implemented." Specifically, the CEQA Guidelines Section 15126.2 states:

> "Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highways improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."

The following are significant irreversible changes that would be caused by the proposed project:

6.4.1 Raw Materials used in NZE/ZE Truck Manufacturing and Battery Production

The proposed project would expedite the demand for NZE and ZE technologies. As a result, the proposed project could increase demand for NZE and ZE trucks and associated batteries/fuel cells that power ZE trucks, resulting in an increased demand for raw materials.

The demand for this technology may result in increased production of batteries/fuel cells. For this EA is it not possible to identify the incremental increase in the number of EV truck batteries/fuel cells caused by the proposed project; whether existing battery manufacturing plants can accommodate the demand; or if new production facilities for batteries/fuel cells are needed, where such facilities would be located. While lead agencies must use their best efforts to find out and disclose all that they reasonably can about a project's potentially significant environmental impacts, they are not required to predict the future or foresee the unforeseeable (CEQA Guidelines section 15144). A lifecycle analysis of battery/fuel cell production is outside the scope of this Draft EA. This EA focuses on the potential energy use associated with the WAIRE Program and is subject to the rule of reason. An analysis of the battery/fuel cell production impacts used to power ZE vehicles is speculative. However, the proposed project could result in a significant irreversible increased demand for batteries/fuel cells.

The proposed project would incentivize the acquisition of NZE and ZE trucks; however, the WAIRE Program would not impose any sales requirements on manufactures. Additionally, the WAIRE Program itself does not generate an increase in the national or even international demand for trucks used in the goods movement sector. As such, the proposed project would not result in an overall increase in truck production. Manufacturers would respond to an increase in demand for NZE and ZE truck technology by producing fewer traditional, diesel fuel trucks. For this EA I is not possible to identify whether truck manufacturers would need to retrofit existing truck manufacturing plants or construct new plants for development of NZE and ZE truck fleets, and if new production facilities for NZE and ZE trucks are needed, where such facilities would be located. While lead agencies must use their best efforts to find out and disclose all that they reasonably can about a project's potentially significant environmental impacts, they are not required to predict the future or foresee the unforeseeable (CEQA Guidelines section 15144). This EA focuses on the potential energy use associated with the WAIRE Program and is subject to the rule of reason. An analysis of the site-specific effects of NZE and ZE truck manufacturing from the increased demand for NZE and ZE trucks is speculative. However, the proposed project could result in a significant irreversible increased demand for raw materials associated with NZE and ZE trucks.

6.4.2 Mining Activities

ZE truck technology currently relies on the use of lithium batteries. Thus, the proposed project would result in an increased demand for lithium and other mineral resources used in the battery production, indirectly resulting in the need for additional extraction. However, for this EA is it not possible to identify the incremental increase in the number of EV truck batteries caused by the proposed project; the increase in amount of lithium or other mineral resources that would be used to power the batteries; and whether or not existing lithium resources (e.g., from lithium-ion battery recycling or from existing ore)[2] are sufficient to cover this increased demand or additional mineral resource extraction would occur and where it would occur. It would be speculative to determine

[2] Metals can be recovered from used batteries rather than from natural ore.

whether the increase demand for lithium batteries spurred as a result of use of ZE trucks associated with PR2305 would trigger new mines. While lead agencies must use their best efforts to find out and disclose all that they reasonably can about a project's potentially significant environmental impacts, they are not required to predict the future or foresee the unforeseeable (CEQA Guidelines section 15144). This EA focuses on the potential energy use associated with the WAIRE Program and is subject to the rule of reason. An analysis of the mineral resource extraction impacts from the increased demand for lithium and other mineral resources used to power ZE vehicles is speculative. However, PR2305 could result in a significant irreversible increased demand for mineral resources associated with lithium batteries.

6.5 POTENTIAL GROWTH-INDUCING IMPACTS

CEQA Guidelines Section 15126(d) requires an environmental analysis to consider the "growth-inducing impact of the proposed action" to examine ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.[3] Also required is an assessment of other projects that would foster other activities which could affect the environment, individually or cumulatively. To address this issue, potential growth-inducing effects will be examined through analysis of the following questions:

- *Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?* Implementing the proposed project will not, by itself, have any direct or indirect growth-inducing impacts on businesses in the South Coast AQMD's jurisdiction because it is not expected to foster economic or population growth or the construction of additional housing and primarily affects existing facilities.

- *Would this project result in the need to expand one or more public services to maintain desired levels of service?* As analyzed in the Initial Study, the proposed project would not result in an increase in public services (e.g., schools, police, fire, library, and emergency services). However, as identified above, the proposed project would require coordination with the primary electricity utility provider (SCE) to ensure that they consider the proposed project in their next biennial IEPR.

- *Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?* The proposed project could have an economic effect on warehouse owners and operators within the South Coast AQMD jurisdiction. This include economic effects associated with the warehouse operators WAIRE Points Compliance Obligation (WPCO), including reporting. As identified in this EA, under the current rule stringency, the proposed project is not anticipated to result in any relocations outside of the South Coast AQMD region. However, as a reasonable "worst-case" analysis, this EA

[3] Please note that growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment. This issue is presented to provide additional information on ways in which this project could contribute to significant changes in the environment, beyond the direct consequences of developing the land use concept examined in the preceding sections of this EA.

conservatively assumes that up to three warehouses would relocate above the baseline scenario and those impacts have been analyzed.

- *Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?* The proposed project implements the air pollution reduction goals of the 2016 AQMP. The 2016 AQMP contains a variety of control measures, which include Facility-Based Mobile Source Measures (FBMSMs), also known as indirect source rules (ISR). While the proposed project would be the first ISR in the South Coast AQMD region, except for the employee commute reduction Rule 2202, it is not the first ISR in the state.[4] Additionally, because the proposed project is implementing the FBMSM of the 2016 AQMP, specifically Control Measure MOB-03, outlined in the 2016 AQMP, the proposed project would not involve a precedent-setting action.

6.6 RELATIONSHIP BETWEEN SHORT-TERM AND LONG-TERM ENVIRONMENTAL GOALS

CEQA documents are required to explain and make findings about the relationship between short-term uses and long-term productivity. (CEQA Guidelines Section 15065(a)(2).) An important consideration when analyzing the effects of a proposed project is whether it will result in short-term environmental benefits to the detriment of achieving long-term goals or maximizing productivity of these resources.

Implementation of the proposed project is not expected to achieve short-term goals at the expense of long-term environmental productivity or goal achievement. The proposed project is part of the long-range emissions reduction strategy outline in the 2016 AQMP. The proposed project implements the FBMSM of the 2016 AQMP, specifically Control Measure MOB-03. The proposed project will facilitate the reduction of NOx and PM, including DPM, within South Coast AQMD's jurisdiction, and emission reductions associated with warehouses and the mobile sources attracted to applicable warehouses in order to assist in meeting state and federal air quality standards for ozone and fine particulate matter. Implementation of the proposed project is expected to result in NOx and PM, including DPM, emissions reductions and reduced associated public health impacts from warehouse activities which will vary depending upon the implementation measures employed. The proposed project would also implement PR 316 which would establish a mechanism for the collection of administrative fees to be paid by warehouses subject to PR 2305 to recover South Coast AQMD administrative costs associated with the review of various notifications, Custom WAIRE Plan evaluation, reports and mitigation fees, as well as compliance activities such as onsite inspections. Implementing the proposed project does not narrow the range of beneficial uses of the environment.

[4] The San Joaquin Valley Unified Air Pollution Control District adopted Rule 9510 (Indirect Source Review) and Rule 3180 (Administrative Fees for Air Impact Assessment Applications) Source Review in December 2005. (State Clearinghouse No. 2005111027)

APPENDICES

Appendix A1: Proposed Rule 2305

Appendix A2: Proposed Rule 316

Appendix B: Initial Study/ Notice of Preparation

Appendix C: NOP Comments and Responses

Appendix D: CalEEMod® Files and Assumptions

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APPENDIX A1

Proposed Rule 2305

PROPOSED RULE 2305 WAREHOUSE INDIRECT SOURCE RULE – WAREHOUSE ACTIONS AND INVESTMENTS TO REDUCE EMISSIONS (WAIRE) PROGRAM

(a) Purpose

The purpose of this rule is to reduce local and regional emissions of nitrogen oxides and particulate matter, and to facilitate local and regional emission reductions associated with warehouses and the mobile sources attracted to warehouses in order to assist in meeting state and federal air quality standards for ozone and fine particulate matter.

(b) Applicability

This rule applies to owners and operators of warehouses located in the South Coast Air Quality Management District (South Coast AQMD) jurisdiction with greater than or equal to 100,000 square feet of indoor floor space in a single building.

(c) Definitions

For the purpose of this rule, the following definitions shall apply:

(1) ALTERNATIVE ENERGY GENERATION EQUIPMENT means systems at a warehouse facility capable of generating electricity without the use of diesel or gasoline.

(2) ALTERNATIVE-FUELED VEHICLE means a vehicle or engine which is not powered by gasoline or diesel fuel.

(3) ALTERNATIVE FUELING STATION means fuel dispensing equipment for alternative-fueled vehicles.

(4) CLASS 2B TRUCK means a truck with a Gross Vehicle Weight Rating (GVWR) of 8,501 to 10,000 pounds.

(5) CLASS 3 TRUCK means a truck with a GVWR of 10,001 to 14,000 pounds.

(6) CLASS 4 TRUCK means a truck with a GVWR of 14,001 to 16,000 pounds.

(7) CLASS 5 TRUCK means a truck with a GVWR of 16,001 to 19,500 pounds.

(8) CLASS 6 TRUCK means a truck with a GVWR of 19,501 to 26,000 pounds.

(9) CLASS 7 TRUCK means a truck with a GVWR of 26,001 to 33,000 pounds.

(10) CLASS 8 TRUCK means a truck with a GVWR of greater than 33,001 pounds.

(11) COLD STORAGE WAREHOUSE means a warehouse that temporarily stores perishable goods which are required to be either refrigerated or frozen.

(12) COMPLIANCE PERIOD means the 12-month period during which a warehouse facility or land owner, or operator is required to earn Points, as specified in paragraph (d)(1).

(13) DIESEL PARTICULATE MATTER (DPM) means the particles found in the exhaust of diesel fueled internal combustion engines. DPM is a component of fine particulate matter.

(14) DWELL TIME means the number of hours per day a truck or tractor is parked at a warehouse.

(15) ELECTRIC CHARGER means an electric charging station for vehicles. Each unique plug that can charge an individual vehicle at any time, regardless of whether other electric chargers/plugs are operating, counts as one electric charger. This equipment is also referred to as Electric Vehicle Supply Equipment (EVSE).

(16) FUEL TYPE means the fuel used to power a vehicle, such as electricity, hydrogen, natural gas, gasoline, or diesel fuel.

(17) LEVEL 2 CHARGER means electric vehicle supply equipment (EVSE) that can deliver an electric charge up to a rate of 19.2 kilowatts (kW).

(18) LEVEL 3 CHARGER means EVSE that can deliver an electric charge between 19.2 and 50 kW.

(19) LEVEL 4 CHARGER means an EVSE that can deliver an electric charge between 51 and 149 kW.

(20) LEVEL 5 CHARGER means an EVSE that can deliver an electric charge between 150 and 350 kW.

(21) MERV 16 means the minimum efficiency reporting value of filters used in heating, ventilation, and air conditioning units that remove at least 95% of particles 0.3 microns and larger as stated in the American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2.

(22) NEAR-ZERO EMISSIONS (NZE) TRUCKS means trucks or tractors with engines meeting the California Air Resources Board's lowest non-zero optional NOx standard applicable at the time of manufacture as defined in the California Code of Regulations Title 13, section 1956.8.

(23) NITROGEN OXIDES (NOx) mean the sum of nitric oxides and nitrogen dioxides emitted, calculated as nitrogen dioxide.

(24) PARENT COMPANY means a company or other entity that owns a controlling interest in a company directly or through one or more subsidiaries.

(25) STRAIGHT TRUCK means a truck that carries cargo on the same chassis as the power unit and cab.

(26) TRACTOR means a heavy-duty Class 7 or 8 truck designed to pull a semi-trailer.

(27) TRANSPORT REFRIGERATION UNIT (TRU) means a refrigeration system designed to control the environment of temperature sensitive products transported in trucks or trailers.

(28) TRUCK CLASS means the size of a truck based on its GVWR.

(29) TRUCK TRIP means the one-way trip a truck or tractor makes to or from a site with at least one warehouse to deliver or pick up goods stored at that warehouse for later distribution to other locations. A truck or tractor entering a warehouse site and then leaving that site counts as two trips.

(30) VEHICLE MILES TRAVELED (VMT) means total annual miles of vehicle travel.

(31) WAREHOUSE means a building that stores cargo, goods, or products on a short- or long-term basis for later distribution to businesses and/or retail customers.

(32) WAREHOUSE FACILITY means a property that includes a warehouse as well as accessory uses such as parking areas and driving lanes for trucks, trailers, or passenger vehicles; entry and exit points for vehicles; accessory maintenance or security buildings; and fueling or charging infrastructure for vehicles.

(33) WAREHOUSE FACILITY OWNER means the legal, beneficial, and/or equitable owner or owners of a warehouse facility.

(34) WAREHOUSE LAND OWNER means the legal, beneficial, and/or equitable owner or owners of the land beneath a warehouse facility.

(35) WAREHOUSE OPERATOR means the entity who conducts day-to-day operations at a warehouse, either with its employees or through the contracting out of services for all or part of the warehouse operations. A warehouse operator can be, but is not necessarily the warehouse owner.

(36) WAREHOUSE SIZE means the indoor floor space, measured in square feet, of an individual warehouse building that may be used for warehousing activities.

(37) WAREHOUSING ACTIVITIES means operations at a warehouse related to the storage and distribution of goods, including but not limited to the storage, labelling, sorting, consolidation and deconsolidation of products into different size packages. Supporting office administration, maintenance, manufacturing areas, or retail sales areas open to the general public, within the same warehouse building, that are physically separate from the warehouse area, are not considered warehousing activities for the purpose of this rule.

(38) YARD TRUCK means a mobile utility vehicle, that operates as either an on- or off-road vehicle, used to carry cargo containers with or without a chassis; also commonly known as a terminal tractor, utility tractor rig, yard tractor, yard goat, or yard hostler.

(39) ZERO-EMISSION (ZE) TRUCK has the same meaning as "zero emission vehicle" defined in California Code of Regulations, Title 13, Section 1963.

(d) Requirements

(1) Warehouse Points Compliance Obligation

Beginning with the Initial Reporting Date in Table 1, a warehouse operator shall earn the applicable WAIRE Points, for the prior 12-month period from July 1 through June 30, in the amount specified in subparagraph (d)(1)(A). WAIRE Points shall only be earned for actions and investments completed during the compliance period while the warehouse operator used the warehouse, except as specified in paragraph (d)(6). Only warehouse operators in buildings with greater than or equal to 100,000 square feet of floor area that may be used for warehousing activities and who operate at least 50,000 square feet of the warehouse are required to earn WAIRE Points.

(A) The number of WAIRE Points that a warehouse operator must earn in the applicable compliance period shall be calculated according to the following equation.

$$WPCO = WATTs \times Stringency \times \begin{pmatrix} Annual \\ Variable \end{pmatrix}$$

Where:

WPCO	= WAIRE Points Compliance Obligation, or the number of WAIRE Points that a warehouse operator must earn every year
WATTs	= Weighted Annual Truck Trips as calculated in subparagraph (d)(1)(B) or (d)(1)(C), as applicable
Stringency	= 0.0025 WAIRE Points per WATT
Annual Variable	= As specified in Table 2

(B) The Weighted Annual Truck Trips (WATTs) at a warehouse include all actual truck trips that occurred at a warehouse while the warehouse operator was responsible for warehousing activities during the compliance period. If a warehouse is used by more than one warehouse operator, the WATTs are calculated only for truck trips to or from that operator. Actual truck trip data to a warehouse shall be collected by the warehouse operator using methods that contemporaneously record the truck trips and that are verifiable. WATTs shall be calculated according to the following equation and as specified in the WAIRE Program Implementation Guidelines.

WATTs = [Class 2b to 7 truck trips] + [2.5 × Class 8 truck trips]

Where:

Class 2b to 7 truck trips	= All trucks or tractors entering or exiting a warehouse truck gate(s) or driveway(s) that are truck Class 2b, 3, 4, 5, 6, or 7. If truck class information is not available, Class 2b to 7 trucks are all

straight trucks that entered or exited a warehouse truck gate(s) or driveway(s).

Class 8 truck trips = All Class 8 trucks or tractors entering or exiting a warehouse truck gate(s) or driveway(s). If truck class information is not available, Class 8 trucks are all tractors that entered or exited a warehouse truck gate(s) or driveway(s).

(C) If a warehouse operator does not have information about the number of truck trips at a warehouse due to a force majeure event such as a destruction of records from a fire, the WATTs shall be calculated according to the following equation.

WATTs = Days per Year × Warehouse Size × WTTR

Where:

Days per Year = The number of days that the warehouse operator has operational control of the warehouse during the compliance period

Warehouse Size = Warehouse size in thousand square feet (tsf), as defined in subdivision (c)

WTTR = Weighted Truck Trip Rate, where:
Warehouses $\geq$200,000 = 0.95 trips/tsf/day
Warehouses $\geq$100,000 = 0.67 trips/tsf/day
Cold Storage Warehouses = 2.17 trips/tsf/day

(2) Earning WAIRE Points

WAIRE Points shall only be earned through completing actions in the WAIRE Menu in Table 3 and as described in (d)(3), or by completing actions in an approved Custom WAIRE Plan as described in (d)(4), or by choosing to pay a mitigation fee as described in (d)(5), or using any combination from (d)(3), (d)(4), or (d)(5).

(3) WAIRE Points Earned Using the WAIRE Menu

WAIRE Points may be earned for actions completed in the WAIRE Menu in Table 3 and based on the point values specified therein.

(A) WAIRE Points may not be earned from WAIRE Menu items in Table 3 if those same actions or investments are required by separate United States Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), or South Coast AQMD rules and regulations during the compliance period in paragraph (d)(1). Actions or investments that go beyond U.S. EPA, CARB, or South Coast AQMD rules and regulations can earn WAIRE Points.

(4) WAIRE Points Earned Using a Custom WAIRE Plan

(A) Warehouse facility or land owners, or operators may apply to earn WAIRE Points through a customized plan for their facility. The Custom WAIRE Plan application shall follow the WAIRE Implementation Guidelines and the criteria below.

(i) Custom WAIRE Plan applications must demonstrate how the proposed action will earn WAIRE Points based on the incremental cost of the action, the NOx emission reductions from the action, and the DPM emission reductions from the action, relative to baseline conditions if the warehouse operator had not completed the action in that compliance period.

(ii) The methodology to determine the total WAIRE Points for an action in a Custom WAIRE Plan application shall be consistent with methods in the WAIRE Program Implementation Guidelines.

(iii) Any WAIRE Points earned from a Custom WAIRE Plan for emission reductions must be quantifiable, verifiable, and real as determined by the Executive Officer and consistent with the WAIRE Implementation Guidelines.

(iv) Custom WAIRE Plan applications must include the elements described below:

(I) A description of how the proposed actions will achieve quantifiable, verifiable, and real NOx and DPM emission reductions as quickly as feasible, but no later than three years after plan approval; and

(II) A quantification of expected NOx and/or DPM emission reductions from the proposed actions within the South Coast AQMD and within three miles of the warehouse; and

(III) A description of the method to be used to verify that the proposed actions will achieve NOx and/or DPM emission reductions; and

(IV) A schedule of key milestones showing the increments of progress to complete the proposed actions; and

(V) A description of the location and a map of where the proposed actions will occur; and

(VI) Any expected permits or approvals required by other private parties, or South Coast AQMD, or other federal, state, or local government agencies to implement the Custom WAIRE Plan.

(v) Any Custom WAIRE Plan that relies on VMT reduction must demonstrate that these reductions are surplus to what is included in the most recently approved Regional Transportation Plan (RTP) and Air Quality Management Plan (AQMP).

(B) Review of Custom WAIRE Plan Applications

(i) A Custom WAIRE Plan application must be submitted at least 9 months before an Annual WAIRE Report is due for the compliance period in which the Plan will earn Points.

(ii) Within 30 days of receipt of the Custom WAIRE Plan, the Executive Officer will conduct an initial review of the Custom WAIRE Plan and confirm receipt.

(iii) The Executive Officer shall approve or reject the Custom WAIRE Plan within 90 days of submittal. If no formal approval or rejection is received by the applicant, the application is presumed rejected unless otherwise provided for by the Executive Officer in writing. Approval or rejection will be based on whether:

(I) The Custom WAIRE Plan was prepared consistent with paragraph (d)(4)(A) and in accordance with the WAIRE Program Implementation Guidelines; and

(II) The information provided was complete and accurate.

(iv) Within 30 days of disapproval of a Custom WAIRE Plan application as specified in (d)(4)(B)(iii), a warehouse facility or land owner, or operator may revise and resubmit a Custom WAIRE Plan application that corrects all identified deficiencies. If the Executive Officer does not approve the subsequent revised plan within 30 days of resubmission, then no WAIRE Points may be earned from the Custom WAIRE Plan in the current compliance period.

(v) A Custom WAIRE Plan application shall be made available, by the Executive Officer, for public review no less than 30 days prior to approval.

(C) For any Custom WAIRE Plan that requires implementation beyond the subsequent Annual WAIRE Report, a progress report must be provided every six months after Custom WAIRE Plan approval. The progress report shall follow the WAIRE Program Implementation Guidelines and include at a minimum, all of the following:

(i) The key milestones from the approved Custom WAIRE Plan that were achieved and a schedule indicating dates for future increments of progress; and

(ii) Identification of any milestones that have been or will be achieved later than specified in the approved Custom Plan and the reason for achieving the milestones late. The progress report must describe how each late milestone will be achieved and when WAIRE Points are anticipated to be earned from that action.

(D) If the Executive Officer determines that a warehouse facility or land owner, or operator is not making adequate progress to complete an approved Custom WAIRE Plan, then the Executive Officer may rescind approval of the plan 30 days after notifying the plan applicant of the proposed rescission. The notice to the plan

applicant shall contain a description of the identified deficiencies in the Custom WAIRE Plan implementation.

(i) If the warehouse facility or land owner, or operator does not subsequently demonstrate to the Executive Officer's satisfaction that the deficiencies in implementing the plan have been corrected, then the Executive Officer will rescind approval of the Custom WAIRE Plan and notify the owners or operators of the rescission.

(E) If the expected WAIRE Points from an approved Custom WAIRE Plan are not earned during the applicable compliance period, the warehouse facility or land owner, or operator whose Custom WAIRE Plan was approved shall be in violation of this rule unless the owner or operator demonstrates that they have met their Warehouse Points Compliance Obligation by the date that they submit their Annual WAIRE Report using WAIRE Points earned through requirements in paragraphs (d)(3) or (d)(5).

(5) Mitigation Fee

In lieu of earning the required number of WAIRE Points in paragraph (d)(3) or (d)(4) a warehouse facility or land owner, or operator may choose to satisfy all or any remaining part of their WAIRE Points Compliance Obligation through payment of a mitigation fee in the amount of $1,000 for each WAIRE Point. The mitigation fee shall be paid no later than when the applicable Annual WAIRE Report for that compliance period is due.

(6) Transferring WAIRE Points

WAIRE Points are not transferable, except as specified below.

(A) Transferring WAIRE Points to a Different Warehouse

If a warehouse operator conducts warehousing activities at more than one warehouse during any single compliance period, then WAIRE Points earned for one warehouse may be used at the other warehouse(s) under the operational control of that same warehouse operator. Only those points earned in excess of a warehouse operator’s WAIRE Points Compliance Obligation at that site may be transferred, and only for the current compliance period. Any WAIRE Points transferred to a different warehouse shall be discounted as specified in the WAIRE Menu in Table 3.

(B) Transferring WAIRE Points to a Different Compliance Period

If a warehouse operator earns more WAIRE Points than is required for its annual Warehouse Points Compliance Obligation, then it may use those remaining WAIRE Points at the same warehouse to satisfy its Warehouse Points Compliance Obligation in any of the following three years.

(i) WAIRE Points may not be transferred to a subsequent compliance period if the WAIRE Menu items used to earn WAIRE Points are required by U.S. EPA, CARB, or South Coast AQMD rules and regulations in that subsequent year.

(ii) Warehouse facility or land owners, or operators transferring WAIRE Points to a different compliance period shall demonstrate that any onsite improvements or equipment installations that were used to earn the WAIRE Points being transferred are still operational at that warehouse facility in the year that WAIRE Points are used.

(iii) WAIRE Points earned prior to a warehouse operator's first compliance period pursuant to paragraph (d)(1) may be banked and transferred up to three years after the warehouse operator's first compliance period. This early compliance must be documented in an Annual WAIRE Report immediately following the year in which the action or investment was completed.

(C) Transferring WAIRE Points Between a Warehouse Facility or Land Owner and a Warehouse Operator

A warehouse facility or land owner may earn WAIRE Points during a compliance period using the methods specified in paragraphs (d)(3), (d)(4), or (d)(5) or may have WAIRE Points transferred to them from the warehouse operator at that site. The warehouse facility or land owner may transfer these WAIRE Points to any warehouse operator at the site where the WAIRE Points were earned within a three-year period after the points were earned. Points used in this three-year period are subject to clause (d)(6)(B)(ii).

(7) Reporting

(A) Warehouse Operations Notification

Warehouse facility owners shall notify the South Coast AQMD in

the manner specified in paragraph (e)(1) when any of the following conditions occur:

(i) Within 60 calendar days of rule adoption;

(ii) Within 14 calendar days after a new warehouse operator has the ability to use at least 50,000 square feet of a warehouse that has greater than or equal to 100,000 square feet used for warehousing activities;

(iii) Within 30 calendar days after a renovated warehouse has received a certificate of occupancy from the local land use agency such that the total warehouse space that may be used for warehousing activities has increased or decreased; or

(iv) Within three calendar days of a request from the Executive Officer.

(B) Initial Site Information Report

Warehouse operators shall submit an Initial Site Information Report in the manner specified in paragraph (e)(2) no later than January 15 of the year that they must submit their first annual WAIRE Report for that warehouse facility, or within 30 calendar days of a request by the Executive Officer.

(C) Annual WAIRE Report

Warehouse operators, or warehouse facility or land owners as applicable, shall submit an Annual WAIRE Report in the manner specified in paragraph (e)(3) no more than 30 calendar days after July 1, beginning with the Initial Reporting Date in Table 1. The Annual WAIRE Report, in accordance with the WAIRE Program Implementation Guidelines, shall include the information described in paragraph (e)(3) to demonstrate how the warehouse operator satisfied the requirement of paragraph (d)(1) in the preceding compliance period.

(D) If a warehouse operator vacates a warehouse prior to the Annual WAIRE Report submission date in subparagraph (d)(7)(c) in any year that they must satisfy an annual WAIRE Points Compliance Obligation, then the Annual WAIRE Report shall be submitted to South Coast AQMD no later than the date that they vacate the warehouse.

(e) Reporting, Notification, and Recordkeeping Requirements

(1) Warehouse Operations Notification

The notification required pursuant to subparagraph (d)(7)(A) shall be made in the manner specified by the Executive Officer and the WAIRE Program Implementation Guidelines. The notification shall include:

(A) The legal name and contact information of any entity leasing at least 50,000 square feet of space at that warehouse and of the warehouse facility owner and land owner, or an affirmation if no entities lease at least 50,000 square feet of space at that warehouse;

(B) The duration of the current lease term, if applicable;

(C) The warehouse size(s) and the square footage that may be used for warehousing activities by each entity leasing at least 50,000 square feet of space at a warehouse; and

(D) The last known legal name and contact information of the previous entity or entities leasing at least 50,000 square feet of space at that warehouse and the end date of the previous entity's lease, if applicable; and

(E) How many square feet of the warehouse is used by the warehouse facility owner for warehousing activities.

(2) Initial Site Information Report

The Initial Site Information Report required in subparagraph (d)(7)(B) shall be made in the manner specified by the Executive Officer and the WAIRE Implementation Guidelines, and shall include the following information:

(A) Warehouse size, and the square footage that may be used for warehousing activities within their operational control.

(i) If the warehouse building has less than 100,000 square feet that may be used for warehousing activities, then no additional information pursuant to subparagraphs (e)(2)(B) through (e)(2)(G) is required.

(ii) Any operator leasing less than 50,000 square feet of warehouse space that may be used for warehousing activities is not required to report additional information pursuant to subparagraphs (e)(2)(B) through (e)(2)(G), unless the same parent company owns or controls multiple operators in the same building who collectively use greater than or equal to

50,000 square feet of warehousing space for warehousing activity.

(B) Actual truck trip data, including:

(i) Number of truck trips in the previous 12-month period for the warehouse operator at that warehouse;

(ii) Number of truck trips anticipated for the next applicable 12-month compliance period in subdivision (d); and

(iii) For the purposes of this subparagraph, truck trips shall be reported in two categories. The first category shall include all trucks or tractors using a facility's truck gate or driveway that are truck Class 2b through truck Class 7, or straight trucks if truck class information is not available. The second category shall include all trucks and tractors that are truck Class 8, or all tractors if truck class information is not available.

(C) If the warehouse operator owns or leases on-road trucks or tractors that serve that warehouse, the Initial Site Information Report shall include fleet data, for the previous 12-month period, including:

(i) Number of trucks and tractors in the fleet serving that warehouse, by truck class, and fuel type;

(ii) Total VMT by truck class and fuel type; and

(iii) Typical dwell time at the facility by truck class; and

(iv) Information about which trucks or tractors are owned or leased.

(D) If the warehouse has an alternative fueling station(s) or electric charging station(s) located onsite, the Initial Site Information Report shall include:

(i) Number of electric chargers/alternative fueling stations installed and the date of installation. The report must include the level for each electric charging station. For alternative-fueling stations, the report must include the fuel type, maximum fuel dispensing rate, the maximum amount of fuel that can be dispensed daily, and the pressure of the fueling system, if applicable;

(ii) Types of vehicles served;

(iii) Total fuel dispensed and/or charging provided in the previous 12-month period.

(E) If the warehouse operator has yard trucks that are used at that warehouse facility, the Initial Site Information Report shall include:

(i) Number of yard trucks in the previous 12-month period, and indicate which of these are registered as motor vehicles under Vehicle Code section 4000, et seq.;

(ii) Fuel type and engine size; and

(iii) Total annual hours of operation of all yard trucks for the previous 12-month period.

(F) If the warehouse has onsite alternative energy generation equipment and/or onsite energy storage equipment, the Initial Site Information Report shall include:

(i) The type and rated capacity of the alternative energy generation system in kilowatts and kilowatt-hours per year, and/or rated capacity of the energy storage system in kilowatt-hours, as applicable.

(ii) The total energy generation and/or usage of the energy storage system in kilowatt hours expected during the next applicable compliance period in subdivision (d).

(G) The Initial Site Information Report shall include whether the warehouse operator anticipates earning WAIRE Points from the WAIRE Menu, from a Custom WAIRE Plan, or by choosing to pay a mitigation fee, or the combination thereof, for the next applicable compliance period in subdivision (d). If the warehouse operator anticipates using the WAIRE Menu, the anticipated actions in the WAIRE Menu shall be reported. The actual WAIRE Menu items used for compliance can be from the methods reported in the Initial Site Information Report, or from any other category in the WAIRE Menu, or any other method to earn WAIRE Points in paragraph (d)(2).

(3) Annual WAIRE Report

Annual WAIRE Reports required pursuant to subparagraph (d)(7)(C) or (D) shall be made in the manner specified by the Executive Officer and as specified in the WAIRE Implementation Guidelines, and shall include the following information:

(A) The Annual WAIRE Report shall include truck trip data, including:

(i) Number of actual truck trips during the compliance period in described in paragraph (d)(1); and

(ii) Truck trips shall be reported in the same manner as described in subparagraph (e)(2)(B)(iii)

(B) The Annual WAIRE Report shall include how many WAIRE Points were earned from the WAIRE Menu specified in paragraph (d)(3), an approved Custom WAIRE Plan specified in paragraph (d)(4), from mitigation fees specified in paragraph (d)(5), or from transferred WAIRE Points specified in paragraph (d)(6).

(C) For every WAIRE Menu item used to earn WAIRE Points, the WAIRE Annual Report shall contain information about the Reporting Metric specified in Table 3.

(D) Every Annual WAIRE Report shall include current contact information for the warehouse operator.

(4) Recordkeeping

Records which document the accuracy and validity of all information submitted to the South Coast AQMD as required by this rule shall be kept by the warehouse facility or land owner, or operator as applicable, for a minimum of seven years from the reporting deadline, and made available upon request during normal business hours.

(A) A warehouse operator relying on WAIRE Points transferred from a warehouse facility or land owner pursuant to subparagraph (d)(6)(C) must possess records for how the WAIRE Points were earned if they are used to satisfy a WPCO.

(B) Records documenting how WAIRE Points were earned must have been collected contemporaneously with the action itself.

(5) All reports in this rule shall be certified by an authorized official. For purposes of reporting, an authorized official is defined as an individual who has knowledge and responsibility for actions required by this rule, and who has been authorized by an officer of the warehouse facility or land owner, or operator, as applicable, to submit and certify the accuracy of the data presented in these reports on behalf of the owner or operator, based on best available knowledge.

(f) WAIRE Implementation Guidelines

The Executive Officer shall periodically publish guidelines for implementing the WAIRE Program.

(g) Exemptions

(1) Operators In Warehouses That Have Less Than 50,000 Square Feet That They May Use For Warehousing Activities

Warehouse operators who can only use less than 50,000 square feet of a warehouse that is greater than or equal to 100,000 square feet, for warehousing activities due to terms of their lease, are not subject to the requirements in subdivision (d)(1) unless the same parent company owns or controls multiple operators in the same building who collectively use more than 50,000 square feet of space for warehousing activity.

(2) Unforeseen Circumstances

In instances where investments or actions completed by an owner or operator perform at a level significantly lower than anticipated due to unforeseen circumstances beyond the control of the warehouse facility or land owner, or operator and such that the anticipated WAIRE Points for that action can not be fully earned, the owner or operator may apply for a partial or complete exemption to the Executive Officer following procedures in the WAIRE Program Implementation Guidelines. The application must specify what portion of the WPCO determined by subparagraph (d)(1) that the malfunctioning equipment would have satisfied, and relevant details about why the anticipated action was unable to earn the expected WAIRE Points.

(h) Severability

If any provision of this rule is held by judicial order to be unlawful or otherwise invalid, such order shall not affect the operation or implementation of the remainder of this rule. If any provision of this rule is held by judicial order to be inapplicable to any person or circumstance, such order shall not affect the application of such provision to other persons or circumstances. The severability provided for in this subsection shall include, but is not limited to, invalidation of any exemption in subsection (g) or any of the compliance options in subsections (d)(3), (d)(4), or (d)(5) or the actions in Table 3.

Table 1 – Initial Requirement Date

Phase	Warehouse Size (square feet)	Initial Reporting Date	Initial Compliance Period
1	≥ 250,000	August 2, 2022	The latter of the rule adoption date or July 1, 2021 to June 30, 2022
2	≥ 150,000-<250,000	August 1, 2023	July 1, 2022 to June 30, 2023
3	≥ 100,000-<150,000	July 31, 2024	July 1, 2023 to June 30 2024

Table 2 – Annual Variable

Annual WAIRE Report Year*	Annual Variable		
	Phase 1	Phase 2	Phase 3
2022	0.33	0	0
2023	0.67	0.33	0
2024	1.0	0.67	0.33
2025	1.0	1.0	0.67
2026 and beyond	1.0	1.0	1.0

* This is the year that a warehouse is first required to submit its Annual WAIRE Report.

Table 3 WAIRE Menu

Action/Investment	Action/Investment Details	Reporting Metric	Annualized Metric	WAIRE Points per Annualized Metric	Discounted WAIRE Points Subparagraph (d)(6)(A)
Acquire ZE/NZE Trucks in Warehouse Operator Fleet	ZE Class 8	Number of trucks	One truck acquired	126	126
	ZE Class 4-7			68	68
	ZE Class 2b-3			14	14
	NZE Class 8			55	55
	NZE Class 4-7			26	26
ZE/NZE Truck Visits	ZE Class 8	Number of visits	365 truck visits	51	33
	ZE Class 4-7			12	9
	ZE Class 2b-3			9	6
	NZE Class 8			42	24
	NZE Class 4-7			12	9
Acquire ZE Yard Truck		Number of yard trucks	One yard truck acquired	177	177
Use ZE Yard Truck		Hours of use	1,000 hours	291	51
Install Onsite ZE Charging or Fueling Infrastructure	Level 5 EVSE Purchase	Number of EVSE purchased	One EVSE purchased	118	118
	Level 4 EVSE Purchase			51	51
	Level 3 EVSE Purchase			26	26
	Level 2 EVSE Purchase			5	5
	TRU Plug EVSE Purchase			3	3
	Begin construction on Level 3, 4, or 5 charger project	First day of construction	One construction project	9	9
	Begin construction on Level 2 charger project			9	9
	Begin construction on TRU Plug project			5	5
	Finalize Level 3, 4, or 5 charger project	The latter of final permit sign off or charger energization	One construction project	59	59
	Finalize Level 2 charger project			9	9
	Finalize TRU Plug project			7	7
	Hydrogen (H_2) Station	Daily capacity of station in kilograms (kg)	One 700 kg/day station construction project	1,680	1,680
Use Onsite ZE Charging or Fueling Infrastructure	Vehicle Charging	Kilowatt-hours (kWh) of dispensed electricity	165,000 kWh	42	24
	TRU Charging		10,658 kWh	10	3
	H_2 Station Usage	Kg of dispensed H_2	6,152 kg	43	25
Install Onsite Solar Panels	Rooftop	Size of system in kW	100 kW system	23	23
	Carport			27	27
Use Onsite Solar Panels		Energy production in kWh	165,000 kWh	1	1
Install MERV 16 or greater Filters or Filter Systems in Residences, Schools, Daycares, Hospitals, or Community Centers	Install Stand-Alone System	Number of systems installed	25 systems	55	55
	Replace Filters	Number of filters replaced	200 filters	51	51

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APPENDIX A2

Proposed Rule 316

PROPOSED RULE 316 FEES FOR RULE 2305

(a) Purpose

California Health and Safety Code Section 40522.5 provides authority for the South Coast Air Quality Management District to adopt a fee schedule for areawide or indirect sources of emissions which are regulated, but for which permits are not issued, to recover the costs of programs related to these sources. The purpose of this rule is to recover the South Coast AQMD's cost of implementing Rule 2305.

(b) Applicability

This rule applies to owners and operators of facilities subject to Rule 2305 that submit an Annual WAIRE Report, a Custom WAIRE Plan application, an Initial Site Information Report, a Warehouse Operations Notification, or that pay a Mitigation Fee.

(c) Definitions

For the purpose of this rule, the following definitions shall apply:

(1) ANNUAL WAIRE REPORT is the annual report submitted by a warehouse operator or owner demonstrating how they satisfied their Warehouse Points Compliance Obligation pursuant to Rule 2305 (d)(7)(C).

(2) CUSTOM WAIRE PLAN APPLICATION is the application submitted by a warehouse operator or owner that describes the customized method that they propose to use to satisfy their Warehouse Points Compliance Obligation pursuant to Rule 2305 (d)(4).

(3) INITIAL SITE INFORMATION REPORT is the report submitted by a warehouse operator pursuant to Rule 2305 (d)(7)(B).

(4) MITIGATION FEE is the fee paid by a warehouse operator or owner pursuant to Rule 2305 (d)(5).

(5) WAREHOUSE has the same definition as in Rule 2305 (c)(31).

(6) WAREHOUSE OPERATIONS NOTIFICATION is the report submitted by a warehouse owner with information about the warehouse building and any business leasing the warehouse pursuant to Rule 2305 (d)(7)(A).

(7) WAREHOUSE OPERATOR has the same definition as in Rule 2305 (c)(35).

(8) WAREHOUSE FACILITY OWNER has the same definition as in Rule 2305 (c)(33).

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(9) WAREHOUSE LAND OWNER has the same definition as in Rule 2305 (c)(34).

(10) WAREHOUSING ACTIVITIES has the same definition as in Rule 2305 (c)(37).

(d) Annual WAIRE Fees

Warehouse operators and owners who submit reports or notifications required by Rule 2305 shall pay fees according to Table 1. These fees are due at the time that the applicable report or notification must be submitted pursuant to Rule 2305.

Table 1

Report or Notification	Fee
Annual WAIRE Report	$392.50
Initial Site Information Report	$140.68
Warehouse Operations Notification	$29.51

(e) Custom WAIRE Plan Application Evaluation Fee

(1) Warehouse owners who submit a Rule 2305 Custom WAIRE Plan Application shall be charged fees on a time and materials basis. The amount charged shall be an amount equal to the total actual and reasonable time incurred by South Coast AQMD staff for evaluation of the application, assessed at the hourly staff rate or prorated portion of $161.25 per hour. The initial fee shall be $806.25 for each plan, and shall be paid when the Custom WAIRE Plan application is submitted.

(2) The adjustment to plan application evaluation fees will be determined at the time a plan is approved or rejected and may include additional fees based upon actual review and work time billed. Notification of the amount due or refund will be provided to the applicant, and any additional fees due to the adjustment to plan evaluation fees will be billed following project completion.

(f) Mitigation Program Administrative Fee

Warehouse owners or operators who pay a mitigation fee pursuant to Rule 2305 (d)(5) shall pay an additional fee to cover the reasonable costs incurred by South Coast AQMD staff and/or its consultants to administer the Mitigation Program. This

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administrative fee shall be equal to 6.25 percent of the mitigation fee paid by the warehouse owner or operator, and shall be paid when the mitigation fee is paid.

(g) Payment Due Date

Payment of all applicable fees in subdivision (d) shall be due at the time that the applicable report must be submitted, and in subdivision (e) hourly fees shall be due in sixty (60) days from the date of personal service or sending by mail, electronic mail, or other electronic means, of the notification of the amount due. For the purpose of this paragraph, the fee payment will be considered to be received by the South Coast AQMD if it is delivered, postmarked, or electronically paid on or before the expiration date stated on the billing notice. If the expiration date falls on a Saturday, Sunday, or a state holiday, the fee payment may be delivered, postmarked, or electronically paid on the business day following the Saturday, Sunday, or the state holiday with the same effect as if it had been delivered, postmarked, or electronically paid on the expiration date.

(h) Exemptions

(1) Any warehouse facility owner who submits a Warehouse Operations Notification for a warehouse that has less than 100,000 square feet of floor area dedicated to warehousing activities that year is not required to pay fees described in subdivisions (d) through (g).

(2) Any warehouse operator who operates less than 50,000 square feet of a warehouse for warehousing activities and for which Rule 2305 (e)(2)(A)(ii) applies is not required to pay fees described in subdivision (d).

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APPENDIX B

Initial Study/ Notice of Preparation

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SUBJECT: **NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT, INITIAL STUDY, AND OPPORTUNITY FOR PUBLIC COMMENT**

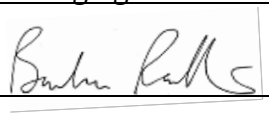
PROJECT TITLE: **PROPOSED RULE 2305 – WAREHOUSE INDIRECT SOURCE RULE - WAREHOUSE ACTIONS AND INVESTMENTS TO REDUCE EMISSIONS (WAIRE) PROGRAM; AND PROPOSED RULE 316 – FEES FOR REGULATION XXIII**

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (South Coast AQMD), as Lead Agency, has prepared a Notice of Preparation (NOP) of the Draft Environmental Assessment (EA) and Initial Study (IS) to analyze environmental impacts from the project identified above pursuant to its certified regulatory program (Public Resources Code Section 21080.5, CEQA Guidelines Section 15251(l), and South Coast AQMD Rule 110). The NOP/IS includes a project description and analysis of potential adverse environmental impacts that could be generated from the proposed project. The NOP/IS serves two purposes: 1) to solicit information on the scope of the environmental analysis for the proposed project, and 2) to notify public agencies and the public that the South Coast AQMD will prepare a Draft EA to further assess potential adverse environmental impacts that may result from implementing the proposed project.

This letter, the attached NOP and the attached IS are not South Coast AQMD applications or forms requiring a response from you. Their purpose is simply to provide information to you on the above project. If the proposed project has no bearing on you or your organization, no action on your part is necessary. The IS and other relevant documents may be obtained by calling the South Coast AQMD Public Information Center at (909) 396-2001 or accessing the South Coast AQMD's website at: http://www.aqmd.gov/home/library/documents-support-material/lead-agency-scaqmd-projects.

Comments focusing on your area of expertise, your agency's area of jurisdiction, if applicable, or issues relative to the environmental analysis for the proposed project will be accepted during a 32-day public review and comment period beginning Friday, November 13, 2020 and ending at 5:00 p.m. on Tuesday, December 15, 2020. **Please send any comments relative to the CEQA analysis in the IS to Ryan Bañuelos (c/o CEQA) at the address shown above. Comments can also be sent via email to rbanuelos@aqmd.gov, facsimile to (909) 396-3982.** Please include the name and phone number of the contact person for your organization. Questions regarding the proposed rule language should be directed to Victor Juan at (909) 396-2374 or by email to vjuan@aqmd.gov.

Because the proposed project may have statewide, regional, or areawide significance, a CEQA scoping meeting is required pursuant to Public Resources Code Section 21083.9(a)(2). The CEQA scoping meeting will be held via video conferencing and by telephone on December 2, 2020 at 1:30 PM. PR 2305 and PR 316 are scheduled to be considered for adoption at the Governing Board Meeting (Public Hearing) on March 5, 2021 at 9:00 a.m. This date is subject to change. Meeting agendas, which include details on how the public can participate electronically, are posted at least 72 hours prior to the meeting and are available from South Coast AQMD's website at: http://www.aqmd.gov/home/newsevents/meeting-agendas-minutes.

Date: November 12, 2020 **Signature:** 

Barbara Radlein
Program Supervisor, CEQA
Planning, Rule Development, and Area Sources
South Coast Air Quality Management District

Reference: California Code of Regulations, Title 14, Sections 15082(a) and 15375

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765-4182

NOTICE OF PREPARATION (NOP) OF A DRAFT ENVIRONMENTAL ASSESSMENT (EA), INITIAL STUDY (IS), AND OPPORTUNITY FOR PUBLIC COMMENT

Project Title: Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program; and Proposed Rule 316 – Fees for Regulation XXIII

Project Location: The proposed project may affect existing and new warehouses located throughout the South Coast Air Quality Management District's (South Coast AQMD) jurisdiction, which includes the four-county South Coast Air Basin (all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties), and the Riverside County portion of the Salton Sea Air Basin and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project: The proposed project is comprised of Proposed Rule (PR) 2305, including a mitigation program component, PR 316 to recover administrative costs, and the submittal of PR 2305 into the State Implementation Plan (SIP). PR 2305 has been developed to facilitate local and regional emission reductions associated with existing and new warehouses with an indoor warehouse floor space equal to or greater than 100,000 square feet within a single building and the mobile sources attracted to these warehouses. Under PR 2305, operators of applicable existing and new warehouses would be subject to an annual Warehouse Actions and Investments to Reduce Emissions (WAIRE) Points Compliance Obligation (WPCO) intended to reduce regional and local emissions from warehouse indirect sources. To meet the WPCO, WAIRE Points can be earned by warehouse operators and/or owners by selecting from a menu of implementation measures: 1) acquiring and/or using near-zero emissions (NZE) and zero-emission (ZE) trucks; 2) acquiring and/or using ZE yard trucks; 3) installing and/or using ZE charging/fueling infrastructure (e.g., electric charger, hydrogen fuel station) for cars, trucks, and/or transport refrigeration units; 4) installing and/or using onsite energy systems (e.g., solar panels); and 5) implementing community benefits (e.g., air filters for sensitive receptors). In addition, warehouse operators may apply to earn WAIRE Points through a custom WAIRE Plan specific to their operations that satisfy prescribed performance metrics. WAIRE Points may be earned only for "surplus" actions that go beyond existing state and federal regulations. In lieu of satisfying the WPCO via implementation measures, a warehouse operator may choose to pay an optional mitigation fee to the South Coast AQMD that would be used in a mitigation program to achieve the emissions reductions. Similar to the measures used to earn WAIRE Points, the mitigation program would implement measures such as subsidizing the purchase of NZE and ZE trucks and/or the installation of charging and fueling infrastructure for ZE trucks. The mitigation program would prioritize use of the mitigation fees in areas near the warehouses using this compliance option. Therefore, the environmental impacts associated with the mitigation program are similar to implementation of measures to earn WAIRE Points and are analyzed in this NOP/IS. Implementation of the proposed project is expected to result in emission reductions of nitrogen oxides and particulate matter, including diesel particulate matter and reduced associated public health impacts from warehouse activities which will vary depending upon the implementation measures employed. There may be additional industrial properties and warehouse operators and owners that will only be required to provide reports but will not be required to earn WAIRE Points. PR 2305 will be submitted into the State Implementation Plan. PR 316 has been developed to establish fees to be paid by warehouses subject to PR 2305 to recover South Coast AQMD administrative costs associated with submittal and review of various notifications and reports, custom WAIRE Plan evaluation, and implementing a program using mitigation fees from warehouse operators that chose to pay a mitigation fee, as well as compliance activities such as conducting desktop audits, onsite inspections, and reviewing records. While reducing emissions is an environmental benefit, the NOP/IS identifies potentially significant adverse impacts to the environmental topic areas of air quality and greenhouse gas emissions, energy, and transportation (traffic). Warehouses that will be subject to the proposed project may be identified on lists compiled by the California Department of Toxic Substances Control per Government Code Section 65962.5.

Lead Agency:	**Division:**
South Coast Air Quality Management District	Planning, Rule Development and Area Sources

The NOP/IS is available from South Coast AQMD's website at: http://www.aqmd.gov/home/rules-compliance/ceqa/lead-agency-documents	**or by calling:** (909) 396-2001 **or by emailing:** PICrequests@aqmd.gov	**PR 2305, PR 316, and all supporting documentation are available from South Coast AQMD's website at:** http://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules#2305

The Notice of Preparation of the Draft EA and Initial Study is provided to the public through the following:

☑ Los Angeles Times (November 13, 2020) ☑ South Coast AQMD Mailing List & Interested Parties
☑ South Coast AQMD Website ☑ South Coast AQMD Public Information Center

NOP/IS Review Period (32 days): Friday, November 13, 2020 – Tuesday, December 15, 2020

Scheduled Public Meeting Dates (subject to change): The proposed project may have statewide, regional, or areawide significance; therefore, a CEQA scoping meeting is required (pursuant to Public Resources Code Section 21083.9(a)(2) and CEQA Guidelines Section 15162(d)) and will be held on Wednesday, December 2, 2020 at 1:30 p.m. PR 2305 and PR 316 are scheduled to be considered for adoption at the Governing Board Meeting (Public Hearing) on March 5, 2021 at 9:00 a.m. This date is subject to change. Board meeting agendas, which include details on how the public can participate electronically, are posted at least 72 hours prior to the meeting and are available from South Coast AQMD's website at: http://www.aqmd.gov/home/news-events/meeting-agendas-minutes.

Send CEQA Comments to:	**Phone:**	**Email:**	**Fax:**
Ryan Bañuelos	(909) 396-3479	rbanuelos@aqmd.gov	(909) 396-3982
Direct Questions on PR 2305 and PR 316 to:	**Phone:**	**Email:**	**Fax:**
Victor Juan	(909) 396-2374	vjuan@aqmd.gov	(909) 396-3324

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Initial Study: Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program; and Proposed Rule 316 – Fees for Regulation XXIII

November 2020

State Clearinghouse No. TBD
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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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EXECUTIVE OFFICER:

WAYNE NASTRI

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ACRONYMS

3PL	Third-party logistics provider
AB	Assembly Bill
AQMP	Air Quality Management Plan
ALUC	Airport Land Use Commission
ARA	Air Resource Advisors
ATCM	Airborne Toxic Control Measure
BAER	Burned Area Emergency Response
BCO	Beneficial Cargo Owner
BMPs	Best management practices
CAA	Federal Clean Air Act
CARB	California Air Resources Board
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CAL FIRE	California Department of Forestry and Fire Protection
CAP	Criteria air pollutant
CBC	California Building Code
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CFC	California Fire Code
CGP	Construction General Permit
CHE	Cargo handling equipment
CO	Carbon monoxide
CPUC	California Public Utilities Commission
CWA	Clean Water Act
dBA	Decibel
DECS	Diesel emission control strategy

DPM	Diesel particulate matter
EA	Environmental Assessment
EAP	Emergency Action Plans
EWP	Emergency Watershed Protection
FBMSM	Facility-Based Mobile Source Measure
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zones
FIRM	Federal Insurance Rate Map
FY	Fiscal year
GHG	Greenhouse gas
GSAs	Groundwater Sustainability Agencies
GSE	Ground support equipment
GVWR	Gross vehicle weight rating
IS	Initial Study
ISR	Indirect Source Rule
IWMP	Integrated Waste Management Plan
LID	Low impact development
LRA	Local responsibility areas
MY	Model year
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NHTSA	National Highway Traffic Safety Administration
NPDES	National Pollution Discharge Elimination System
NO2	Nitrogen dioxide
NOP	Notice of Preparation
NOx	Oxides of nitrogen

NRCS	National Resource Conservation Service
NZE	Near-zero emissions
O3	Ozone
OSHA	Occupational Safety and Health Administration
PR	Proposed Rule
PM	Particulate matter
PM2.5	Particulate matter with an aerodynamic diameter of 2.5 microns or less
PM10	Particulate matter with an aerodynamic diameter of 10 microns or less
RCRA	Resource Conservation and Recovery Act
RPS	Renewables Portfolio Standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SIP	State Implementation Plan
SGMA	Sustainable Groundwater Management Act
SQFT	Square feet
SOON	Surplus Off-Road Opt-In for NOx
South Coast AQMD	South Coast Air Quality Management District
SOx	Oxides of sulfur
SRA	State responsibility area
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic air contaminant
TRU	Transport refrigeration unit
U.S. EPA	United States Environmental Protection Agency
U.S. FS	United States Forest Service
UST	Underground storage tank
VMT	Vehicle miles traveled

VOC	Volatile organic compounds
WAIRE	Warehouse Actions and Investments to Reduce Emissions
WATTs	Weighted annual truck trips
WFAQRP	Wildland Fire Air Quality Response Program
WPCO	Warehouse Points Compliance Obligation
WQMP	Water Quality Management Plan
ZE	Zero emissions

CHAPTER 1

PROJECT DESCRIPTION

Introduction

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INTRODUCTION

The purpose of the Notice of Preparation (NOP) of a Draft Environmental Assessment (EA) and Initial Study (IS) is to evaluate the potential adverse environmental impacts associated with the proposed project, which includes Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Proposed Rule 316 – Fees for Regulation XXIII. The proposed project may affect existing and new warehouses located throughout the South Coast Air Quality Management District (South Coast AQMD) jurisdiction, which includes the four-county South Coast Air Basin (SCAB) (all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portion of the Salton Sea Air Basin (SSAB) and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin (MDAB). The proposed project is described in more detail under Project Description.

The California Legislature created the South Coast AQMD in 1977[1] as the agency responsible for developing and enforcing air pollution control rules and regulations in the SCAB and portions of the SSAB and MDAB. In 1977, amendments to the federal Clean Air Act (CAA) included requirements for submitting State Implementation Plans (SIPs) for nonattainment areas that failed to meet all federal ambient air quality standards (CAA Section 172), and similar requirements exist in state law (Health and Safety Code Section 40462). The federal CAA was amended in 1990 to specify attainment dates and SIP requirements for ozone, carbon monoxide (CO), nitrogen dioxide (NO2), and particulate matter (PM) with an aerodynamic diameter of less than 10 microns (PM10). In 1997, the United States Environmental Protection Agency (U.S. EPA) promulgated ambient air quality standards for particulate matter with an aerodynamic diameter less than 2.5 microns (PM2.5 or fine particulate matter). U.S. EPA is required to periodically update the national ambient air quality standards (NAAQS).

In addition, the California Clean Air Act (CCAA), adopted in 1988, requires the South Coast AQMD to achieve and maintain state ambient air quality standards for ozone, CO, sulfur dioxide (SO2), and NO2 by the earliest practicable date (Health and Safety Code Section 40910). The CCAA also requires a three-year plan review, and, if necessary, an update to the SIP. The CCAA requires air districts to achieve and maintain state standards by the earliest practicable date and for extreme non-attainment areas, to include all feasible measures pursuant to Health and Safety Code Sections 40913, 40914, and 40920.5. While not defined in this part of the Health and Safety Code, the term "feasible" is defined in the California Environmental Quality Act (CEQA) Guidelines[2] Section 15364, as a measure "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

By statute, the South Coast AQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the areas under the jurisdiction of the South Coast AQMD[3]. Furthermore, the South Coast AQMD must adopt rules and regulations that carry out the AQMP[4]. The AQMP is a regional blueprint for how

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., Ch. 324 (codified at Health and Safety Code Section 40400-40540).
[2] The CEQA Guidelines are codified at Title 14 California Code of Regulations Section 15000 *et seq.*
[3] Health and Safety Code Section 40460(a).
[4] Health and Safety Code Section 40440(a).

the South Coast AQMD will achieve air quality standards and healthful air and the 2016 AQMP[5] contains multiple goals promoting reductions of criteria air pollutants, greenhouse gases (GHGs), and toxic air contaminants (TACs). In particular, the 2016 AQMP states both oxides of nitrogen (NOx) and volatile organic compound (VOC) emissions need to be reduced to meet air quality standards, with emphasis that NOx emission reductions are more effective to reduce the formation of ozone and PM2.5. Ozone is a criteria pollutant shown to adversely affect human health and is formed when VOCs react with NOx in the atmosphere. NOx is a precursor to the formation of ozone and PM2.5.

To meet air pollution reduction goals, the 2016 AQMP contains a variety of control measures, which include Facility-Based Mobile Source Measures (FBMSMs), also known as indirect source measures or rules. An indirect source rule (ISR) is distinct from a traditional air pollution control regulation that focus on stationary equipment in that ISR focuses on reducing emissions from the vehicles associated with a facility rather than emissions from a facility itself.[6] PR 2305 is an indirect source rule that South Coast AQMD can adopt under the authority of Health and Safety Code Sections 40716(a)(1) and 40440. The primary goal of the FBMSMs is to reduce NOx emissions as one of many local, state, and federal strategies to meet the 8-hour ozone NAAQS. NOx is locally and regionally important due to its involvement in the photochemical formation of ozone and fine particulate matter. Mobile sources associated with goods movement make up about 52% of all NOx emissions in the SCAB.[7] PR 2305 will also reduce diesel particulate matter (DPM), which is a toxic air contaminant and a component of fine particulate matter. The emission reductions from PR 2305 will contribute to meeting commitments for reducing NOx and PM2.5 in the SIP.

The FBMSMs are concentrated on the four sectors of the goods movement industry: commercial marine ports, rail yards, warehouse distribution centers, and commercial airports. Of these FBMSMs, Control Measure MOB-03 – Emission Reductions at Warehouse Distribution Centers, committed to exploring how to achieve emission reductions from this sector. As such, South Coast AQMD staff has developed Proposed Rule (PR) 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program, to implement Control Measure MOB-03.

If adopted, PR 2305 would be applicable to any existing or new warehouse located in the South Coast AQMD jurisdiction with an indoor warehouse floor space equal to or greater than 100,000 square feet within a single building that may be used for warehousing activities by one or more warehouse operators. Under PR 2305, operators of applicable warehouses would be subject to an annual WAIRE Points Compliance Obligation (WPCO). WAIRE Points can be earned by warehouse operators and/or owners by selecting from the following implementation measures in the WAIRE Menu: 1) acquiring and/or using near-zero emissions (NZE) and zero-emission (ZE) trucks; 2) acquiring and/or using ZE yard trucks; 3) installing and/or using ZE charging/fueling infrastructure (e.g., electric charger, hydrogen fuel station) for cars, trucks, and/or transport refrigeration units (TRUs); 4) installing and/or using onsite energy systems (e.g., solar panels); and 5 installing high-efficiency filters or filter systems in residences, schools, daycares, hospitals,

[5] South Coast AQMD, Final 2016 Air Quality Management Plan, March 2017. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

[6] South Coast AQMD, Final 2016 Air Quality Management Plan, March 2017. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

[7] SCAG 2020 Regional Transportation Plan. Accessed Oct. 7, 2020. https://www.connectsocal.org/Documents/Adopted/fConnectSoCal_Goods-Movement.pdf#page=4

or community centers. In addition, warehouse operators may apply to earn WAIRE Points through a custom WAIRE Plan specific to their operations that satisfy prescribed performance metrics. Custom WAIRE Plans could include measures like installing offsite fueling/charging infrastructure or implementing new onsite practices to reduce air quality impacts from electricity consumption (such as installing and operating battery storage, or energy management systems to shift when electricity is used).

WAIRE Points may be earned only for "surplus" actions that go beyond existing state and federal regulations. In lieu of satisfying the WPCO via implementation measures, a warehouse operator may choose to pay an optional mitigation fee to the South Coast AQMD that would be used in a mitigation program to achieve the emissions reductions. Similar to the measures used to earn WAIRE Points, the mitigation program would implement measures such as subsidizing the purchase of NZE and ZE trucks and/or the installation of charging and fueling infrastructure for ZE trucks. The mitigation program would prioritize use of the mitigation fees in areas near the warehouses using this compliance option. Therefore, the environmental impacts associated with the mitigation program are similar to implementation of measures to earn WAIRE Points and are analyzed in this NOP/IS.

In addition, South Coast AQMD staff has developed PR 316 – Fees for Regulation XXIII, to accompany PR 2305, to establish an annual fee to be paid by warehouses subject to PR 2305 to recover South Coast AQMD administrative costs associated with submittal and review of various notifications and reports, custom WAIRE Plan evaluation, implementing an incentive program using fees from warehouse operators that chose to pay a mitigation fee, as well as compliance activities such as conducting desktop audits, onsite inspections, and reviewing records. Although PR 316 is statutorily exempt from CEQA, to avoid confusion the CEQA analysis will consider any potential environmental impacts from this proposed rule as part of the project.

Implementation of the proposed project is expected to result in NOx and PM, including DPM, emission reductions and reduced associated public health impacts from warehouse activities which will vary depending upon the implementation measures employed. Estimated emission benefits from this project, including any that are creditable towards the SIP, will be included in the Environmental Assessment.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq.* and CEQA Guidelines which are codified at Title 14 California Code of Regulations, Section 15000 *et seq.*, requires all potential adverse environmental impacts of proposed projects be evaluated and methods to reduce or avoid identified significant adverse environmental impacts of these projects be implemented, if feasible. The purpose of the CEQA process is to inform decision makers, public agencies, and interested parties of potential adverse environmental impacts that could result from implementing a proposed project and to identify feasible mitigation measures or alternatives, when an impact is significant.

Public Resources Code Section 21080.5 allows public agencies with regulatory programs to prepare a plan or other written documents in lieu of a Negative Declaration or Environmental Impact Report once the secretary of the resources agency has certified the regulatory program. The South Coast AQMD's regulatory program was certified by the secretary of resources agency on March 1, 1989. [CEQA Guidelines Section 15251(l)]. In addition, the South Coast AQMD adopted Rule 110 – Rule Adoption Procedures to Assure Protection and Enhancement of the Environment, which implements the South Coast AQMD's certified regulatory program. Under the certified regulatory program, the South Coast AQMD typically prepares an Environmental Assessment (EA) to evaluate the environmental impacts for rule projects proposed for adoption or amendment. The EA is a substitute CEQA document (CEQA Guidelines Section 15252), prepared either in lieu of a Negative Declaration for a project with no significant impacts or in lieu of an Environmental Impact Report for a project with potentially significant adverse impacts, pursuant to the South Coast AQMD's Certified Regulatory Program. The EA is also a public disclosure document intended to: 1) provide the lead agency, responsible agencies, decision makers and general public with information on the environmental impacts of the proposed project; and, 2) be used as a tool by decision makers to facilitate decision making on the proposed project.

The proposed adoption of PR 2305, and PR 316 is a discretionary action subject to South Coast AQMD Governing Board consideration, which has the potential for resulting in direct or indirect change to the environment and, therefore, is considered a "project" as defined by CEQA. [CEQA Guidelines Section 15378]. While PR 316 would individually qualify for a statutory exemption under CEQA Guidelines Section 15273 – Rates, Tolls, Fares, and Charges, it is being included as part of the project description for clarity and to give a complete description of the proposed project. The lead agency is the "public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment." [Public Resources Code Section 21067]. Since the South Coast AQMD Governing Board has the primary responsibility for approving the entire project as a whole, the South Coast AQMD is the most appropriate public agency to act as lead agency for the proposed project. [CEQA Guidelines Section 15051(b)].

The first step of the EA process is to prepare a Notice of Preparation (NOP) with an Initial Study (IS) that includes an Environmental Checklist and project description. The Environmental Checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. The NOP/IS is also intended to provide information about the proposed project to other public agencies and interested parties prior to the release of the Draft EA for public review and comment.

PR 2305 is anticipated to result in NOx and PM, including DPM, emissions reductions because its implementation would accelerate transition to near zero and zero emissions vehicles and equipment. However, it is not possible to quantify the magnitude of emissions benefits at this

preliminary state. While implementation is expected to result in NOx and PM, including DPM, emission reductions in order to assist in meeting state and federal air quality standards for ozone and fine particulate matter (an environmental benefit), the proposed project also has the potential to generate potentially significant adverse environmental impacts to the environmental topic areas of air quality and greenhouse gas emissions, energy, and transportation (traffic). Thus, in accordance with CEQA Guidelines Section 15063, this IS identifies these potential adverse effects.

This NOP/IS is being released and circulated for a 32-day public review and comment period from November 13, 2020 to December 15, 2020. Written comments received during the public comment period on the scope of the environmental analysis presented in the NOP/IS will be considered when preparing the Draft EA and included in an appendix of the Draft EA, along with responses to comments.

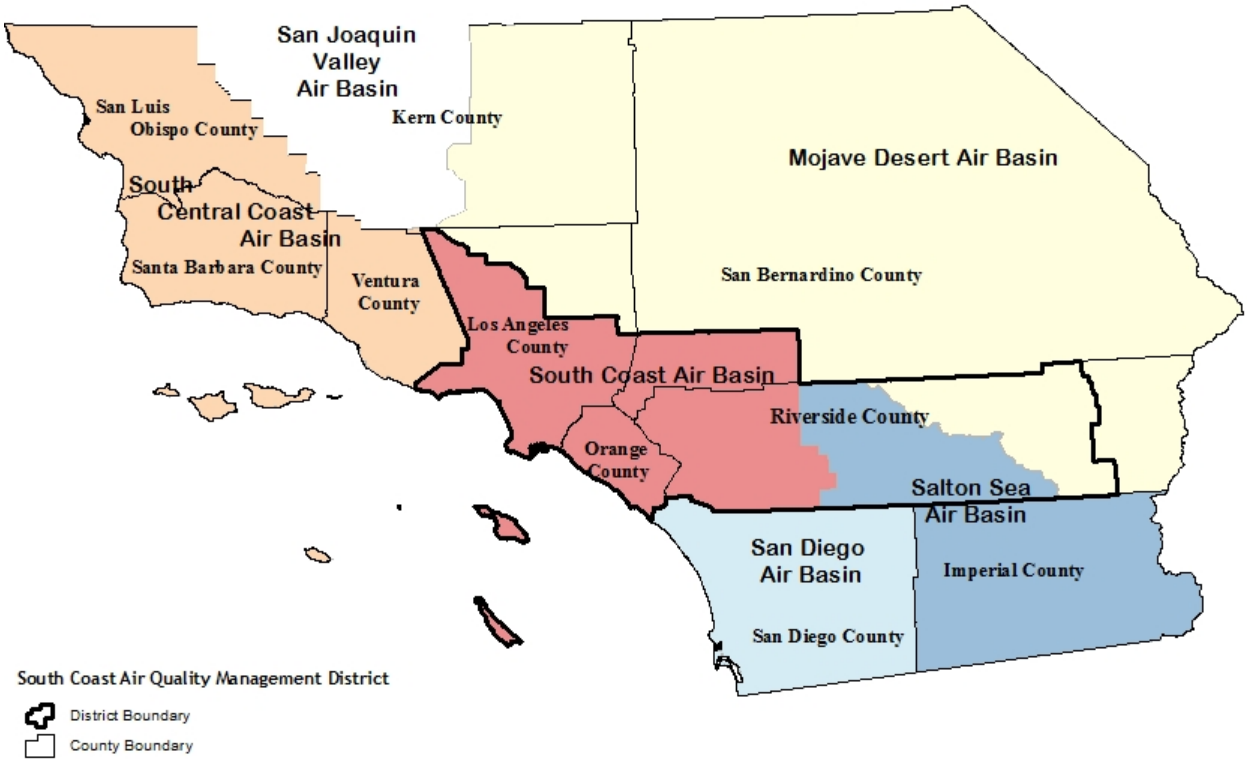
Because the proposed project may have statewide, regional, or areawide significance, a CEQA scoping meeting is required pursuant to Public Resources Code Section 21083.9(a)(2) and will be held on December 2, 2020 at 1:30 p.m. South Coast AQMD staff recognizes the challenges businesses and other stakeholders are experiencing due to COVID-19 and seeks to be consistent with Governor Newsom's Executive Order N-29-20 (March 18, 2020). To ensure South Coast AQMD is practicing safe social distancing, the CEQA scoping meeting will only be conducted remotely via video conference and teleconference (Zoom) which can be accessed via an internet-connected digital device or a telephone. Any comments made at the CEQA scoping meeting relative to the proposed project along with responses to the CEQA-related comments will be included in an appendix of the Draft EA. Further, pursuant to CEQA Guidelines Section 15252, since significant adverse impacts have been identified, an alternatives analysis along with mitigation measures are required and will be included in the Draft EA.

Prior to making a decision on the adoption of the proposed project, the South Coast AQMD Governing Board must review and certify the Final EA, including responses to comments, as providing adequate information on the potential adverse environmental impacts that may occur as a result of adopting the proposed project.

PROJECT LOCATION

The South Coast AQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county SCAB (all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portion of the SSAB and the non-Palo Verde, Riverside County portion of the MDAB. The SCAB is a subarea of South Coast AQMD's jurisdiction, it is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. A federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (see Figure 1-1).

Figure 1-1
Southern California Air Basins and South Coast AQMD's Jurisdiction



The proposed project applies to qualifying-sized warehouses located within the South Coast AQMD's jurisdiction (see Table 1-1). Some properties may only be required to satisfy reporting requirements in PR 2305 as the information contained within existing databases may not be sufficient to determine if the property is currently used for warehousing, or if warehousing activities are conducted in areas above rule thresholds. Because the warehousing industry is dynamic, the number of regulated entities is expected to change year to year as more warehouses are constructed, or as operations change at existing warehouses.

Table 1-1 Expected Number of Warehouses and Industrial Properties Subject to PR 2305

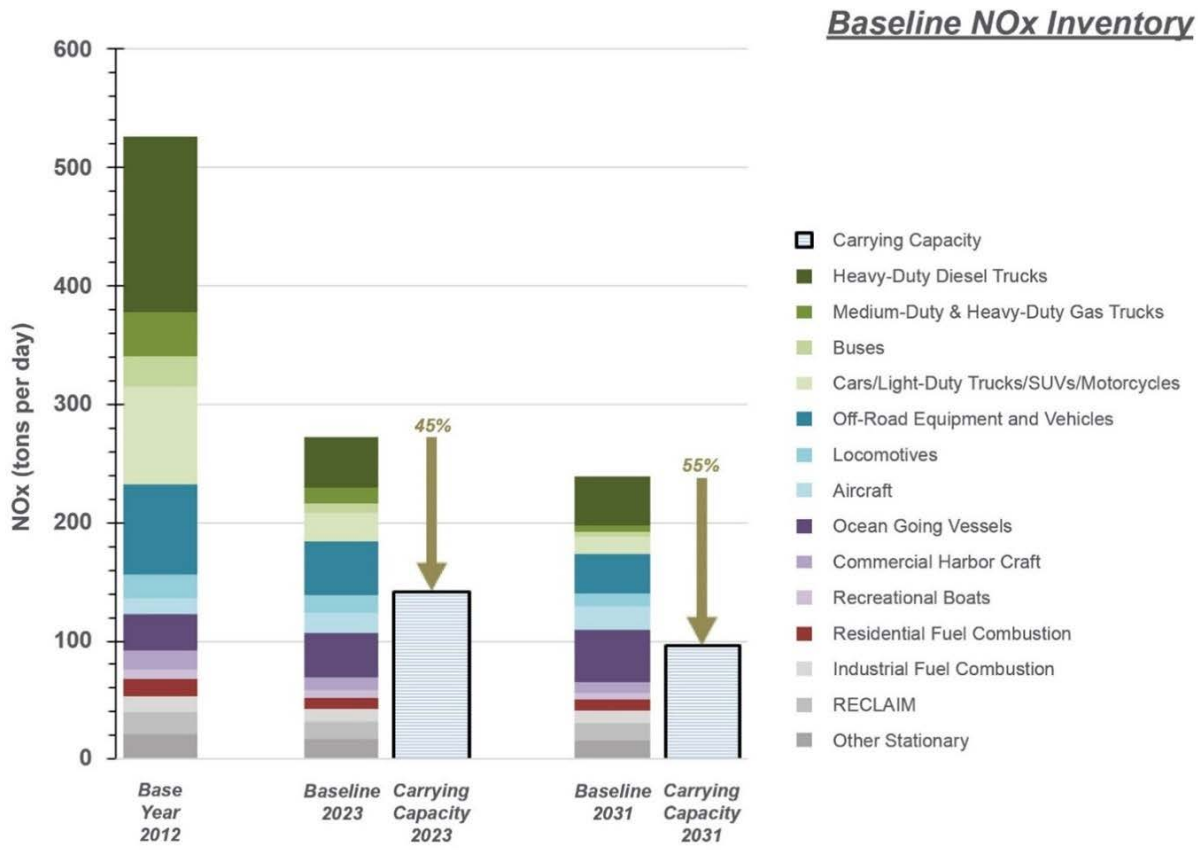
County	Total Number of Industrial Properties Anticipated to be Subject to PR 2305	Total Number of Warehouses Likely Required to Earn WAIRE Points	Total Number of Warehouses and Industrial Properties Likely Only Subject to PR 2305 Reporting Requirements
Los Angeles	1,635	1,392	243
Orange	398	325	73
Riverside	406	365	41
San Bernardino	881	820	61
Total	**3,320**	**2,902**	**418**

PROJECT BACKGROUND

In response to historical and ongoing exceedances of state and federal ambient air quality standards for PM10, PM2.5, and ozone, South Coast AQMD has adopted a series of AQMPs with the most recent 2016 AQMP adopted in March 2017. The 2016 AQMP evaluated new implementation strategies and control measures to achieve emission reductions to demonstrate how the region will meet federal air quality standards for ozone and fine particulate matter. The 2016 AQMP states both NOx and VOC emissions need to be addressed, emphasizing NOx emission reductions are more effective to reduce ozone and fine particulate matter formation. DPM is a component of fine particulate matter.

The 2016 AQMP includes potential regulatory control options to achieve multiple air quality goals. The primary goal of the 2016 AQMP is to reduce NOx emissions as one of many local, state, and federal strategies to meet the 8-hour ozone NAAQS. If these standards are met, then all other federal ozone and PM standards should be achieved. In order to meet these air quality standards, total NOx emissions in the SCAB must be reduced by approximately 45 percent beyond baseline 2023 levels, and 55 percent beyond baseline 2031 levels (see Figure 1-2).

Figure 1-2
NOx Emission Reductions Needed to Achieve Federal 8-Hour Ozone NAAQS



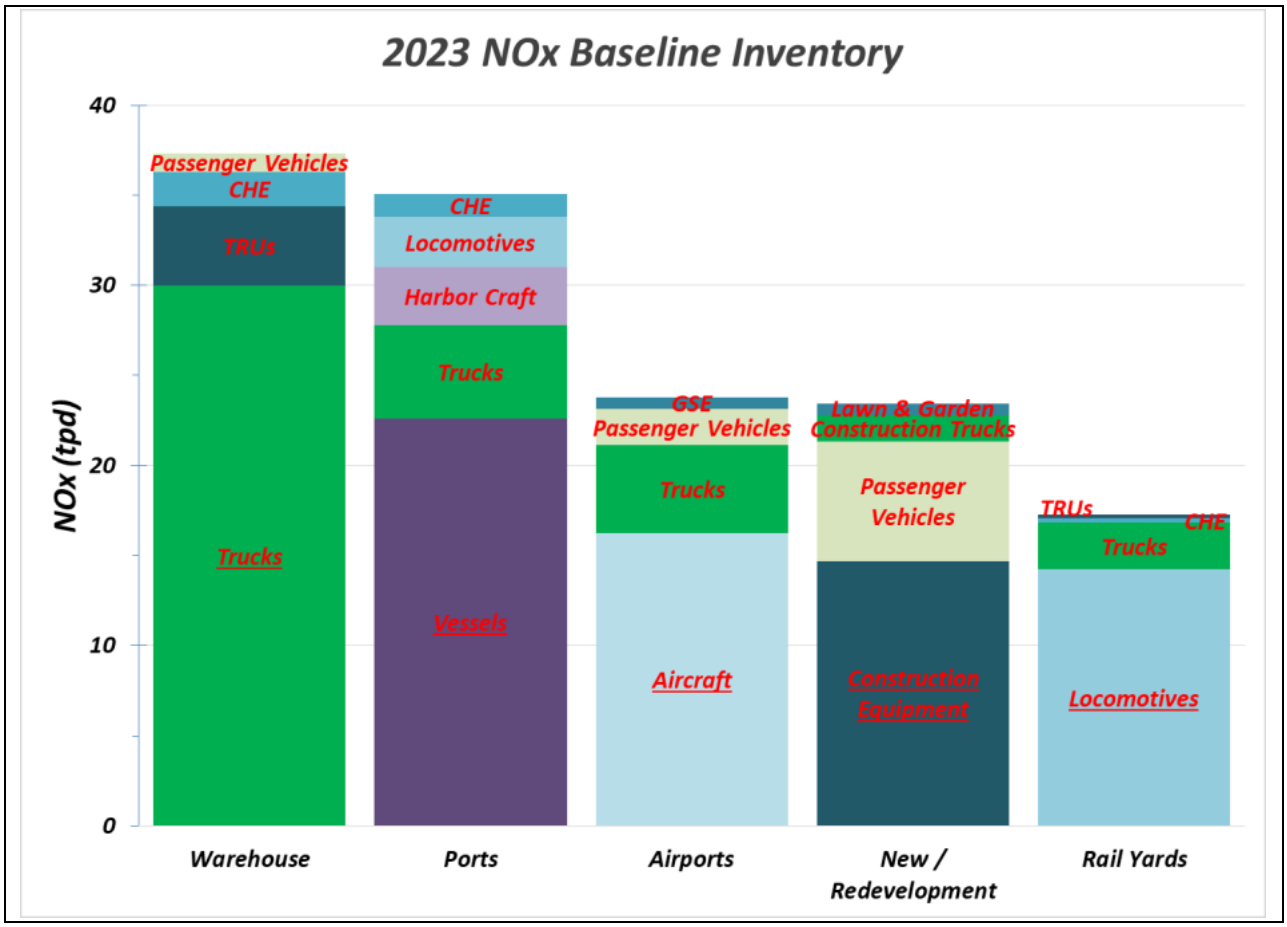
Source: South Coast AQMD, 2016 Air Quality Management Plan, Potential Strategies for Facility-Based Mobile Source Measures, May 4, 2018, Figure 1-1, page 1-1, http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-may4-032.pdf.

To meet air pollution reduction goals, the 2016 AQMP contains FBMSMs to reduce NOx emissions from mobile sources utilized as part of the goods movement industry as one of many local, state, and federal strategies to meet the 8-hour ozone NAAQS[8]. The FBMSMs were focused on four sectors of the goods movement industry: commercial marine ports, rail yards and intermodal facilities, warehouse distribution centers, and commercial airports.

To assist in identifying potential areas of opportunity for emission reductions, South Coast AQMD developed preliminary NOx emission inventories for each facility sector included that could be affected by FBMSMs. Figure 1-3 presents the estimated NOx emission baseline inventory by source for each FBMSM sector. Each bar in Figure 1-3 is not mutually exclusive from another bar. For example, trucks may travel from a port to a warehouse, or from a warehouse to a railyard.

[8] NOx is locally and regionally important due to its involvement in the photochemical formation of ozone and fine PM.

Figure 1-3
2023 NOx Baseline Inventory



Source: South Coast AQMD, 2016 Air Quality Management Plan, Potential Strategies for Facility-Based Mobile Source Measures, May 4, 2018, page 2-2, http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-may4-032.pdf**.**

Warehouse Distribution Centers

The 2016 AQMP included Control Measure MOB-03 – Emission Reductions at Warehouse Distribution Centers which required the assessment and identification of potential actions to reduce emissions associated with mobile sources operating in and out of warehouse distribution centers.[9]

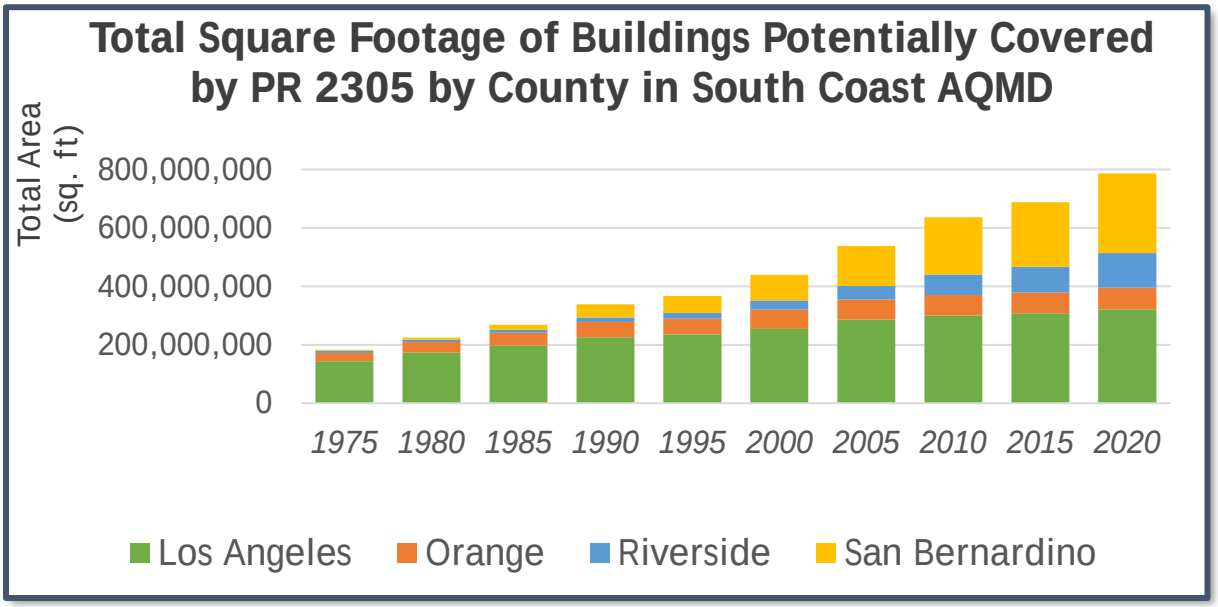
Distribution centers and/or warehouses are facilities that serve as a distribution point for the transfer of goods and have a variety of emission sources. In particular, depending on the size and type, a warehouse distribution center may attract hundreds of diesel trucks each day which deliver, load, and/or unload goods, often operating seven days a week. Further, if the warehouse distribution center needs to transport perishable goods which require refrigeration, the trucks are equipped with diesel-fueled TRUs. In addition, diesel-fueled cargo handling equipment (CHE) such as yard tractors are utilized to move goods throughout the warehouse and onto or off of the trucks. Lastly, warehouse employees commute trips via gasoline or diesel-fueled passenger vehicles also contribute to the overall emissions. Thus, emissions from trucks with or without

[9] South Coast AQMD, Final 2016 Air Quality Management Plan, March 2017. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

TRUs, CHEs and warehouse employees all contribute to the overall emissions profile associated with warehouse distribution centers.

The estimates presented in Figure 1-3 indicate the majority of NOx emissions are primarily from heavy-duty diesel trucks. Over the past decade, the capacity and quantity of warehouse distribution centers have been increasing rapidly throughout the region (Figure 1-4), future growth of this sector is projected to continue, with the greatest growth occurring in the Inland Empire (e.g., an additional 15 million square feet per year to the regional building stock).[10]

Figure 1-4
Total Square Footage of Building Potentially Covered by PR 2305 by County in South Coast AQMD



Source: South Coast AQMD, Mobile Source Committee Meeting, January 24, 2020, page 8, http://www.aqmd.gov/docs/default-source/Agendas/Mobile-Source/msc012420.pdf?sfvrsn=26**.**

Working Groups

In order to evaluate potential emission reduction strategies for the FBMSMs, including Control Measure MOB-03, South Coast AQMD staff convened FBMSM Working Groups with stakeholders to explore voluntary, collaborative approaches in addition to potential regulatory approaches to reduce emissions from facilities following adoption of the 2016 AQMP. A total of 17 working group meetings for all FBMSMs were held in the first year following the adoption of the 2016 AQMP in March 2017, with three meetings held on June 1, 2017, October 4, 2017, and January 17, 2018 which specifically focused on warehouses.

After considering the recommendations by South Coast AQMD staff on potential voluntary and regulatory strategies developed from the FBMSM Working Group Meetings, the South Coast AQMD Governing Board, at the May 4, 2018 Public Hearing, directed staff to initiate the development of an ISR for warehouses and distribution centers. The Warehouse ISR Working Group was formed to discuss warehouse air quality related issues and to provide feedback on a

[10] South Coast AQMD, March 2, 2018 Board Meeting Agenda, Potential Strategies for Facility-Based Mobile Source Measures Adopted in 2016 AQMP. Accessed on August, 14, 2020. http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-mar2-032.pdf.

potential ISR approach and ten meetings were held on the following dates: August 1, 2018, August 23, 2018, October 24, 2018, March 22, 2019, August 23, 2019, September 19, 2019, November 13, 2019, December 10, 2019, March 3, 2020, October 9, 2020, and October 30, 2020. Additional working group meetings continue to be held as part of the rule development process. Presentations for the FBMSM and the Warehouse ISR Working Group meetings are available on the South Coast AQMD's website at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures/fbmsm-mtngs.

Warehouse ISR

Recognizing the importance of reducing criteria pollutant emissions from facilities that attract mobile emission sources, federal law allows states to adopt indirect source regulations. California law explicitly provides ISR authority to local air districts. [Health and Safety Code Sections 40716(a)(1), 40440]. An indirect source is defined in the Federal CAA as "a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution." [42 United States Code (USC) Section 7410(a)(5)(C)].

As such, the following potential options for reducing emissions from this source category were discussed in the Warehouse ISR Working Group:

- Facility Caps: Allow emissions at each warehouse distribution center to be capped so each warehouse distribution center would have the flexibility to individually determine how to reduce emissions.
- Local Government Measures: Local governments may decide to tailor emission reduction strategies to address local needs (e.g., through their land use authority).
- Clean Fleets Crediting/Banking Program: Allow clean fleets to generate credits that would be managed through a bank while requiring ISR facilities to regularly purchase and apply the credits to offset emissions from individual warehouse distribution centers.
- Voluntary Fleet Certification Program: Allow fleet owners to certify their fleets are cleaner than what would otherwise be required by CARB regulations while requiring facilities to use a prescribed amount of certified fleets.
- Best Management Practices (BMPs): Allow facilities to choose from an assortment of BMPs such as utilizing ZE or NZE equipment on site, and/or installing ZE/NZE fueling and charging infrastructure, or solar energy storage.
- Mitigation Fees: Allow facilities to pay mitigation fees if other options are not chosen and apply collected funds to subsidize the purchase and use of ZE/NZE equipment or the installation of fueling/charging infrastructure.

Of these options, only the Best Management Practices (now the WAIRE Menu and custom WAIRE Plan option) and the Mitigation Fee options have been carried forward to PR 2305.

The proposed WAIRE Program (PR 2305) includes a menu of actions and/or investments that facility owners or operators can implement, with each menu item having a defined number of WAIRE Points. Each operator of a warehouse with greater than or equal to 100,000 square feet of indoor floor space in a single building that may be used for warehousing activities by one or more warehouse operators would need to demonstrate that a requisite number of WAIRE Points have been earned each year from the WAIRE Menu. Alternatively, warehouse operators can apply to earn WAIRE Points from a custom WAIRE Plan that they develop and implement, if approved by

South Coast AQMD. Finally, warehouse operators could choose to pay a mitigation fee to earn WAIRE Points if they do not want to complete actions from the WAIRE Menu or develop and implement a custom WAIRE Plan.

For warehouses greater than or equal to 100,000 square feet in size, but with warehousing activities less than 100,000 square feet, operators would only have to comply with the reporting requirements in PR 2305. Operators in a multi-tenant warehouse whose total building includes greater than or equal to 100,000 square feet of warehousing activities would also be required to earn WAIRE Points if they use more than 50,000 square feet of floor space for warehousing activities. Some limited reporting requirements in PR 2305 would also apply to warehouse owners. If excess WAIRE Points are earned beyond the WAIRE Points Compliance Obligation (WPCO) for a given year, any accumulation of extra WAIRE Points would be banked for use in any of the following three years at that site. A warehouse operator could also transfer their excess WAIRE Points to a different warehouse that they operate, or to the warehouse owner for use at that site. The WAIRE Points obligation in PR 2305 would not apply to a warehouse owner or fleet owner, unless the warehouse owner or fleet owner is also a warehouse operator.

AIR QUALITY REGULATORY ENVIRONMENT

Overview of Current Regulatory Requirements

There are many existing and upcoming air quality regulations at the state and federal level that focus on emissions from the mobile sources associated with warehouses. These can broadly be placed into three categories. First are regulations that aim to reduce emissions at the tailpipe of a vehicle, commonly called engine standards. These regulations typically focus on requirements for new vehicles. Second are regulations that aim to replace older vehicles with newer vehicles with cleaner technologies, often called fleet rules. Third are regulations that focus on air quality impacts from facilities. These regulations look at the activities associated with a facility and aim to reduce air quality impacts beyond what is already required by engine standards or fleet rules. Key examples of these three types of regulations that address air quality impacts from warehouses are presented in Figures 1-5a and 1-5b as follows.

Figure 1-5a
Key Existing Regulations that Address Air Quality Impacts from Warehouses

Engine Standards	Fleet Rules	Facility-Based Rules
•U.S. EPA Heavy Duty Highway Engine Standards[1] •U.S. EPA Phase 2 GHG Standards[2] •U.S. EPA Non-Road Diesel Engines and Fuel Standards[3] •U.S. EPA Non-Road Large Spark Ignition Engines Standards[4] •CARB Phase 2 GHG Standards[5] •CARB Advanced Clean Cars Program[6] •CARB Optional Low NOx Standards[7] •CARB Heavy Duty Low NOx Omnibus Rule[8]	•CARB Truck and Bus Rule[9] •CARB Transportation Refrigeration Unit (TRU) Air Toxics Control Measure (ATCM)[10] •CARB In-Use Off-Road Diesel Rule[11] •CARB Large Spark Ignition (LSI) Rule[12]	•CEQA (for new projects)[13] •South Coast AQMD Rule 2202 (Employee Commute Reduction)[14]

[1] United States Environment Protection Agency, EPA Emission Standards for Heavy-Duty Highway Engines and Vehicles, March 2016, https://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles

[2] United States Environment Protection Agency, Final Rule for Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles, October 25, 2016, https://www.govinfo.gov/content/pkg/FR-2016-10-25/pdf/2016-21203.pdf

[3] United States Environment Protection Agency, Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel; Final Rule, June 29, 2004, https://www.govinfo.gov/content/pkg/FR-2004-06-29/pdf/04-11293.pdf

[4] United States Environment Protection Agency, Control of Emissions from Nonroad Large Spark-Ignition Engines, and Recreational Engines (Marine and Land Based); Final Rule, November 8, 2002, https://www.govinfo.gov/content/pkg/FR-2002-11-08/pdf/02-23801.pdf

[5] California Air Resources Board, California Phase 2 Greenhouse Gas Standards, 2018, https://ww3.arb.ca.gov/regact/2018/phase2/finalatta.pdf

[6] California Air Resources Board, Advanced Clean Car Program, 2020, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program

[7] California Air Resources Board, Optional Reduced NOx Standards for Heavy-Duty Vehicles, 2020, https://ww2.arb.ca.gov/our-work/programs/optional-reduced-nox-standards

[8] California Air Resources Board, Heavy-Duty Engine and Vehicle Omnibus Regulation and Associated Amendments, August 27,2020, https://ww3.arb.ca.gov/regact/2020/hdomnibuslownox/res20-23.pdf

[9] California Air Resources Board, Truck and Bus Regulation, 2018, https://ww3.arb.ca.gov/msprog/onrdiesel/documents/tbfinalreg.pdf

[10] California Air Resources Board, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate., October 16, 2012, https://ww2.arb.ca.gov/sites/default/files/classic//diesel/tru/documents/fro_10-16-12.pdf

[11] California Air Resources Board, Regulation for In-Use Off-Road Diesel-Fueled Fleets, December 2011, https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/documents/finalregorder-dec2011.pdf

[12] California Air Resources Board, Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation, 2020, https://ww2.arb.ca.gov/our-work/programs/large-spark-ignition-lsi-engine-fleet-requirements-regulation

[13] Association of Environmental Professionals,2020 CEQA California Environmental Quality Act Statutes and Guidelines, https://www.califaep.org/docs/2020_ceqa_book.pdf, 2020, https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/documents/finalregorder-dec2011.pdf

[14] California Air Resources Board, Rule 2202 ─ On-Road Motor Vehicle Mitigation Options, Employee Commute Reduction Program Guidelines, February 5, 2016, http://www.aqmd.gov/docs/default-source/rule-book/support-documents/rule-2202/rule-2202-employee-commute-reduction-program-guidelines-(ecrp).pdf

Figure 1-5b
Potential Upcoming Regulations that would Reduce Air Quality Impacts from Warehouses

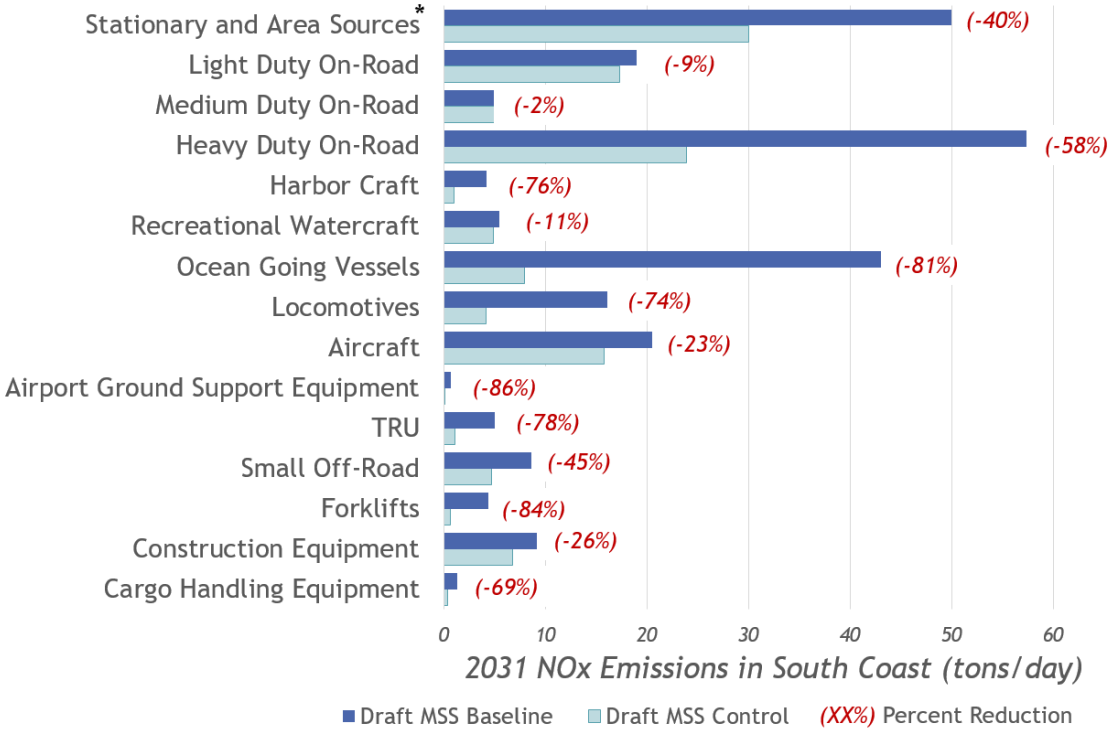
Engine Standards	Fleet Rules	Facility-Based Rules
•U.S. EPA Cleaner Trucks Initiative[1] •CARB Advanced Clean Trucks[2] •CARB TRU Rule[3] •CARB's Small Off-Road Engines[4] •CARB's Advanced Clean Cars 2[4]	•CARB Zero Emission Fleet Rule[5] •CARB Innovative Clean Transit[6] •CARB TRU Rule[3] •CARB Lower In-Use Emission Performance Levels[4] •CARB's Innovative Technology Certification Flexibility[4] •South Coast AQMD Further Deployment of Cleaner Technologies[4] •CARB's Zero-Emission Off-Road Forklift Regulation Phase 1[4]	•CARB TRU Rule[3] •**South Coast AQMD PR 2305 Indirect Source Rule**

[1] United States Environment Protection Agency, Cleaner Trucks Initiative, March 27, 2020, https://www.epa.gov/regulations-emissions-vehicles-and-engines/cleaner-trucks-initiative
[2] California Air Resources Board, Advanced Clean Trucks, 2020, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks
[3] California Air Resources Board, New Transport Refrigeration Unit Regulation in Development, 2020, https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit/new-transport-refrigeration-unit-regulation
[4] California Air Resources Board, Revised Proposed 2016 State Strategy for the State Implementation Plan, March 27, 2017, https://ww3.arb.ca.gov/planning/sip/2016sip/rev2016statesip.pdf
[5] California Air Resources Board, Advanced Clean Fleets, 2020, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets
[6] California Air Resources Board, Innovative Clean Transit, 2020, https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit

The effect of all existing regulations in Figure 1-5a was considered in the 2016 AQMP. The emission reductions from these key regulations and all other existing regulations is reflected in the reduced emissions shown in Figure 1-2. In order to evaluate the potential effect of upcoming regulations shown in Figure 1-5b (as well as other potential future actions) CARB is developing an update to its Mobile Source Strategy (MSS). This draft document evaluates emissions from all mobile source sectors and identifies potential targets for future regulations in order to meet the various state goals for air pollution and climate impacts.[11] A summary of the emission reductions CARB is targeting in 2031 from all vehicle sectors is shown in Figure 1-6.

[11] Draft MSS available here: https://ww2.arb.ca.gov/resources/documents/2020-mobile-source-strategy

Figure 1-6
2031 Emission Reduction Targets in CARB Mobile Source Strategy



Source: South Coast AQMD, Warehouse ISR Working Group Presentation, October 9, 2020, page 8 https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/draft-slides.pdf**.**

There are three key conclusions that can be drawn from the MSS analysis:

1. Significant emissions reductions are required from all mobile source sectors in order to meet 2031 ozone standards.
2. The draft MSS analysis does not evaluate the 2023 ozone standard, and its proposed strategy will not meet this standard.
3. Some mobile source sectors with significant emissions and targeted emission reductions (e.g., ocean going vessels, locomotives, aircraft) may require regulations from either the federal government or from international bodies. Emission reductions from these sectors are therefore likely more difficult than sources that operate solely within the state. If shortfalls occur from these sectors, more emissions reductions from other sectors (e.g., trucks) may by required.

Other State And South Coast AQMD Requirements

Executive Order N-79-20[12]

On September 23, 2020, Governor Newsom signed an executive order directing state agencies to pursue aggressive goals towards zero emissions technologies. Key directives include:

- CARB shall develop and propose car and truck regulations with increasing zero emissions percentages such that by 2035 all in state sales are zero emissions.
- CARB shall also pursue regulations to achieve a 100 percent zero emissions medium duty and heavy duty fleet by 2045.
- CARB shall develop, in coordination with state agencies, U.S. EPA, and local air districts, strategies to achieve 100 percent zero emissions operations for off-road vehicles by 2035.

[12] https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-text.pdf

AB 617 Community Air Protection Program

In 2017, Governor Edmund Brown signed Assembly Bill (AB) 617 to develop a new community-focused program to reduce local air pollution in environmental justice communities more effectively. The AB 617 program includes community air monitoring and community emissions reduction programs. In addition, the legislature appropriated funding to support early actions to address localized air pollution through targeted incentive funding to deploy cleaner technologies in these communities, and grants to support community participation in the AB 617 process. AB 617 includes new requirements for accelerated retrofit of air pollution controls on industrial sources, increased penalty fees, and greater transparency and availability of air quality and emissions data, which will help advance air pollution control efforts throughout the State.

In December 2018, CARB designated three AB 617 communities in the South Coast AQMD, including Wilmington, Carson, West Long Beach; San Bernardino, Muscoy; and East Los Angeles, Boyle Heights, West Commerce. A Community Steering Committee (CSC) was established for each community to gather input and develop Community Emission Reduction Plans (CERPs) and Community Air Monitoring Plans (CAMPs). The CSCs are comprised of residents, community organizations, local agencies, and businesses. Each CERP includes actions, strategies, and goals focused on emission and exposure reductions for air quality priorities identified by the CSCs. In September 2019, the South Coast AQMD Governing Board adopted the CERPs. Due to concerns expressed by the CSCs about local air quality impacts in their communities from trucks going to warehouses, all three 1st Year CERPs include as an action item that South Coast AQMD should continue developing an indirect source rule for warehouses (i.e. PR 2305).

In December 2019, CARB designated two new AB 617 communities in the South Coast AQMD, including Eastern Coachella Valley and Southeast Los Angeles. A CSC has been established for the communities, and they are working on developing CERPs and CAMPs. Finally, in October 2020, the South Coast AQMD Board voted to designate a sixth AB 617 community in the South Los Angeles area.

As demonstrated above, additional actions are needed to meet both the 2023 and the 2031 federal ozone standards as well as addressing concerns about local air quality. PR 2305 is designed to provide additional emission reductions on its own, and to facilitate emission reductions from other proposed regulations to assist in meeting these air quality standards. These actions will also assist in reducing local air quality impacts and will also facilitate the transition to zero emissions vehicles.

PROJECT DESCRIPTION

The proposed project is comprised of PR 2305 and the associated mitigation program, and PR 316. The purpose of PR 2305 is to facilitate NOx and PM, including DPM, emission reductions associated with warehouses and the mobile sources attracted to applicable warehouses in order to assist in meeting state and federal air quality standards for ozone and fine particulate matter. Implementation of the proposed project is expected to result in NOx and PM, including DPM, emission reductions and reduced associated public health impacts from warehouse activities which will vary depending upon the implementation measures employed. Estimated emission benefits from this project, including any that are creditable towards the SIP, will be included in the Environmental Assessment.

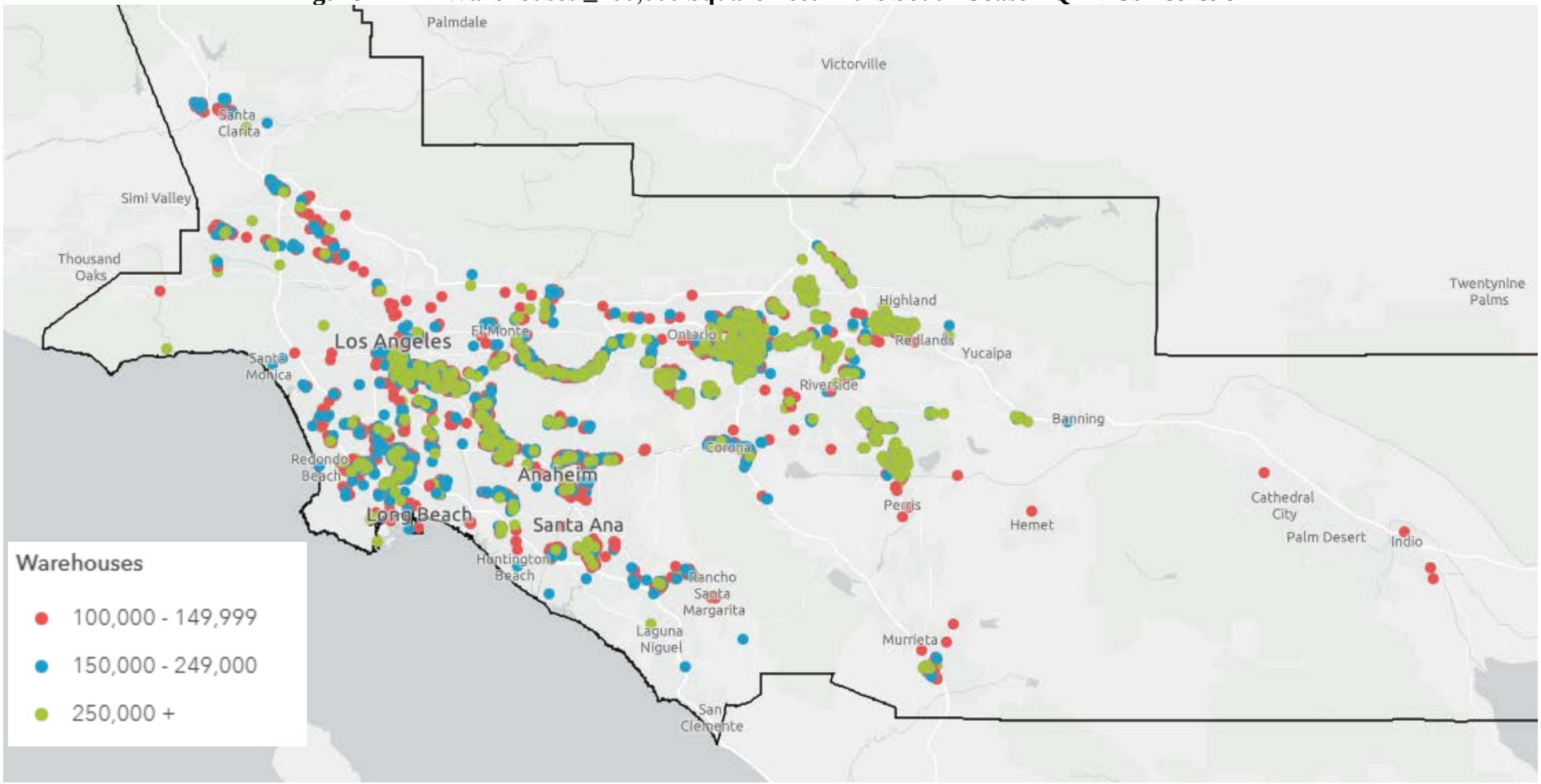
The purpose of PR 316 is to establish a mechanism for the collection of administrative fees to be paid by warehouses subject to PR 2305 to recover South Coast AQMD administrative costs associated with review of various notifications, custom WAIRE Plan evaluation, reports and mitigation fees, as well as compliance activities such as conducting desktop audits, onsite inspections, and reviewing records.

Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program

The section provides a detailed summary of the key elements contained in PR 2305. A preliminary draft of PR 2305 can be found in Appendix A. PR 2305 is designed to apply to any new or existing warehouse located within South Coast AQMD's jurisdiction with an indoor warehouse floor space equal to or greater than 100,000 square feet within a single building that may be used for warehousing activities by one or more warehouse operators. PR 2305 also applies to manufacturing or other facilities that have ancillary warehouses with equal to or greater than 100,000 square feet of indoor floor space in a single building.

Implementation of PR 2305 would initially affect about 3,320 warehouses. Some of these facilities have more than one tenant, so there are potentially a total of about 5,600 warehouse operators that may be subject to the rule. As new facilities are built, they would also become subject to the rule. It is expected that about 418 of these facilities and about 2,100 of these operators would only be subject to reporting requirements in PR 2305. Figure 1-7 shows the location of these existing facilities within South Coast AQMD's jurisdiction.

Figure 1-7 Warehouses ≥100,000 Square Feet in the South Coast AQMD Jurisdiction



The WAIRE program under PR 2305 is being developed so operators of applicable warehouses can implement changes to reduce emissions from mobile sources associated with their operations. Under this program, the number of annual truck trips for applicable warehouses must be reported. These truck trips in turn are converted into each operator's WPCO. The WPCO can be satisfied by earning WAIRE Points by completing actions and investments from the WAIRE Menu, completing actions from an approved custom WAIRE Plan, or paying the optional mitigation fee.

Calculating WPCO

A warehouse's WPCO is calculated by multiplying the number of weighted annual truck trips (WATTs) by a Stringency factor and an Annual Variable as shown in the following equation.

$$WPCO = WATTS \; x \; Stringency \; x \; (Annual \; Variable)$$

Where:

- WPCO is the number of WAIRE Points a warehouse operator must earn in a year.
- WATTs are the number of Weighted Annual Truck Trips
- Stringency factor is a dimensionless multiplier that determines how many Points an operator needs to earn
- The Annual Variable is a dimensionless multiplier which controls how the stringency will phase in through time

WATTs include the number of all actual truck trips from Class 2b to Class 8 vehicles that occurred at a warehouse (e.g., the number of trips to and from the warehouse) while the warehouse operator was responsible for operations during the previous 12-month compliance period. If a warehouse is occupied by more than one warehouse operator, the WATTs are only the truck trips attributed to that operator. Warehouse operators would be required to count and report all of the trucks entering their facility to determine the WATTs in every compliance year.

WATTs are calculated according to the following equation:

$$WATTS = [Class \; 2b \; to \; 7 \; truck \; trips] + [2.5 \; x \; Class \; 8 \; truck \; trips]$$

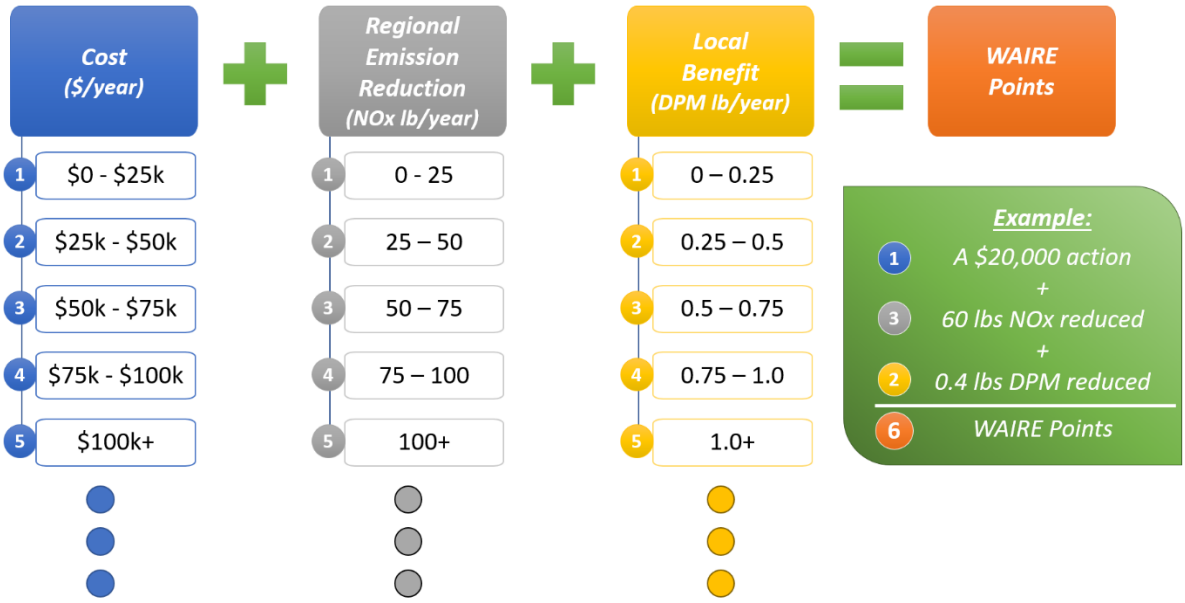
In the rare event of a force majeure event such that the warehouse operator does not have truck trip information (e.g., records destroyed in a fire), then the WATTs are determined using default average truck trip rates.

$$WATTSalt = Days \; per \; Year \; x \; Warehouse \; Size \; x \; WTTR$$

Earning WAIRE Points

WAIRE Points can be earned by completing actions and investments from the following menu of implementation measures: 1) acquiring and/or using NZE and ZE trucks; 2) acquiring and/or using ZE yard trucks; 3) installing and/or using ZE charging/fueling infrastructure (e.g., electric charger, hydrogen fuel station) for cars, trucks, and/or TRUs; 4) installing and/or using onsite energy systems (e.g., solar panels); and 5) implementing community benefits (e.g., air filters for sensitive receptors). In addition, warehouse operators may apply to earn WAIRE Points through a custom WAIRE Plan specific to their operations that satisfy strict criteria.

The WAIRE point system considers the annualized cost of installing and/or operating vehicles/infrastructure; the amount of regional NOx emissions reductions; and the local DPM emissions reduction benefit, which are weighted equally using the following equation:



WAIRE Points may be earned only for actions that go beyond existing state and federal regulations. If adopted, PR 2305 will interact with other existing and upcoming regulations and incentive programs in varying ways. For example, some incentive programs like Carl Moyer prohibit using funds to comply with a regulation. A warehouse operator that owns a fleet may not use Carl Moyer funds to purchase a truck and also earn WAIRE Points for that truck purchase. However, visits to a warehouse from a truck that was funded through the Carl Moyer program can still earn WAIRE Points because Carl Moyer does not require localized emission reductions near warehouses, and because the Carl Moyer program applies to truck owners and not warehouse operators. Separately, if CARB's upcoming TRU rule is approved, warehouse operators that face requirements from that rule (e.g., installing ZE TRU charging infrastructure) will not be able to use those actions to comply with PR 2305. However, if they implement actions beyond CARB requirements, or earlier than required by CARB, then they would be able to earn WAIRE Points for those actions.

In lieu of satisfying the WPCO via the WAIRE Menu, a warehouse operator may choose two other options. The first is to prepare and then implement a custom WAIRE Plan tailored to their site that will achieve an equal number of WAIRE Points as would be obtained implementing actions from the WAIRE Menu. The types of projects that might fit within this approach that have been suggested by industry stakeholders include modifying a building's energy use throughout the day to draw more energy from renewable power sources (like solar) rather than natural gas fueled power plants, or installing ZE charging infrastructure for onroad trucks at an offsite location, perhaps in cooperation with other nearby warehouse operators.

The custom WAIRE Plan application shall follow the WAIRE Implementation Guidelines and the following criteria:

- Custom WAIRE Plan applications must demonstrate how the proposed action will earn WAIRE Points based on the incremental cost of the action, the NOx emission reductions from the action, and the DPM emission reductions from the action, relative to baseline conditions if the warehouse operator had not completed the action in that compliance year.
- Any WAIRE Points for emission reductions must be quantifiable, verifiable, and real as determined by the Executive Officer and consistent with the WAIRE Implementation Guidelines.
- Custom WAIRE Plan applications must include the following elements:
    - A description of how the proposed actions will achieve quantifiable, verifiable, and real NOx and DPM emission reductions as quickly as feasible, but no later than three years after plan approval; and
    - A quantification of expected NOx and/or DPM emission reductions from the proposed project within the South Coast AQMD and within three miles of the warehouse; and
    - A description of the method to be used to verify that the proposed project will achieve NOx and/or DPM emission reductions; and
    - A schedule of key milestones showing the increments of progress to complete the proposed project; and
    - A description of the location and a map of where the proposed project will occur; and
    - Any expected permits or approvals required by other private parties, or South Coast AQMD, or other federal, state, or local government agencies to implement the proposed plan.

Any proposed plan that relies on vehicle miles travelled (VMT) reduction must demonstrate that these reductions are surplus to what is included in the most recent approved Regional Transportation Plan (RTP) and AQMP.

The second option is that warehouse operators may elect to pay an optional mitigation fee to the South Coast AQMD that would be used in a mitigation program to achieve the emissions reductions. Similar to the measures used to earn WAIRE Points, the mitigation program would implement measures such as subsidizing the purchase of NZE and ZE trucks and/or the installation of charging and fueling infrastructure for ZE trucks. The mitigation program would prioritize use of the mitigation fees in areas near the warehouses using this compliance option. Therefore, the environmental impacts associated with the mitigation program are similar to implementation of measures to earn WAIRE Points and are analyzed in this NOP/IS.

Transferring WAIRE Points

WAIRE Points accumulated by a warehouse owner or operator in a given compliance year can be transferred in one of three limited ways. First, an operator may transfer excess WAIRE Points from one of its warehouses to another of its warehouses. WAIRE Points transferred under this scenario are subject to a reduction via a locational discount to encourage emission reductions within the immediate vicinity of warehouses. The locational discount is intended to account for the reduced health benefits within the immediate vicinity of a warehouse that utilizes WAIRE Points earned at another warehouse. The net effect of applying a locational discount would result in the warehouse

needing to secure more WAIRE Points via transfer than if it had otherwise self-generated WAIRE Points.

Second, operators may bank WAIRE Points earned in excess of their WPCO for up to three years for use at the warehouse where the points were earned provided that the actions from the WAIRE Menu used to earn those points are not otherwise required by U.S. EPA, CARB or South Coast AQMD regulatory requirements in place at the time of surrender. For example, while points may be earned prior to the adoption of a pending regulatory requirement, once the regulatory requirement is in effect, the points may not be used for future years. Furthermore, owners or operators transferring WAIRE Points to a different compliance year shall demonstrate that any onsite improvements or equipment installations that were used to earn the WAIRE Points being transferred are still operational at that warehouse facility in the year that WAIRE Points are used. WAIRE Points that are banked from one year to another are not allowed to be transferred to a different site. Similarly, WAIRE Points transferred to another site are not allowed to be banked to a later year.

Third, a warehouse owner may earn points and transfer the points to an operator of the same warehouse, and vice-versa, subject to the three-year WAIRE Points banking limitation. Transfers of WAIRE Points are allowed within an individual warehouse (e.g., from owner to operator) or between warehouses controlled by the same operator. Transfers between different operators at different warehouses are prohibited.

Reporting, Notification, and Recordkeeping Requirements

There are three types of reports required by PR 2305. The first is a Warehouse Operations Notification. Warehouse owners will be required to notify the South Coast AQMD when any of the following conditions occur:

- Within 60 calendar days after adoption of PR 2305;
- Within 14 calendar days after a new warehouse operator has the ability to use at least 50,000 square feet of a warehouse that has greater than or equal to 100,000 square feet used for warehousing activities;
- Within 30 calendar days after a renovated warehouse has received a certificate of occupancy from the local land use agency such that the total warehouse space that may be used for warehousing activities has increased or decreased; or
- Within three calendar days of a request from the Executive Officer.

This notification will need to contain basic information about the site, such as building size and how much of the building is used for warehousing activities, and the name and contact information of any tenant leasing the property and the length of the lease term. Many of the 3,320 initially identified facilities may not ultimately be required to earn WAIRE Points based on data provided in these Warehouse Operations Notification reports. For example, a building that is 100,000 square feet in size that has only 80,000 square feet used for warehousing and 20,000 square feet used for offices would not be subject to the parts of PR 2305 that requires operators to earn WAIRE Points. Other reasons that operators may not be required to earn WAIRE Points could include that the facility is not currently used for warehousing activity at all (e.g., it is used only for manufacturing, or is used as a church), or that no operator uses more than 50,000 square feet for warehousing activity in a building with multiple tenants.

The second type of report is an Initial Site Information Report that warehouse operators must submit no later than January 15 of the year that they must submit their first Annual WAIRE Report (the third type of report). This Initial Site Information Report will include more detailed information pertaining to warehouse characteristics, truck trip data, fleet data if they own a fleet, and the anticipated implementation approach to satisfy the WPCO for the next compliance period. Finally, warehouse operators required to satisfy a WPCO must submit an Annual WAIRE Report that includes truck trip data (used to determine their site-specific WPCO), details on actions that were implemented to earn WAIRE Points, and how many WAIRE Points were earned for the prior 12-month compliance period.

Timing of WAIRE Program

Implementation of PR 2305 will be annually phased-in according to warehouse size. As summarized in Table 1-2, the first compliance period is applicable to warehouses with the largest footprint of floor space (e.g., greater than 250,000 square feet) with the Initial Site Information Report due by January 1, 2022 and the Annual WAIRE Report due by August 2, 2022.

Table 1-2 PR 2305 First Annual WAIRE Report Dates

Warehouse Size (square feet)	First Annual WAIRE Report Date
Greater than or equal to (≥) 250,000 square feet	August 2, 2022
≥to 150,000 square feet	August 1, 2023
≥to 100,000 square feet	July 31, 2024

Proposed Rule 316 – Fees for Regulation XXIII

The proposed project also includes Proposed Rule 316 – Fees for Regulation XXIII. These administrative fees will be paid by facilities subject to PR 2305 every year to cover the costs associated with submittal and review of various notifications, reports and mitigation fees, as well as compliance activities such as conducting desktop audits, onsite inspections, and reviewing records. Specific administrative fees are proposed for submitting an Annual WAIRE Report, Initial Site Information Report, Warehouse Operations Notification, custom WAIRE Plan Evaluation, and/or Mitigation Fee. PR 316 also includes a fee schedule to address late fees and provides for a fee exemption for warehouses with less than 100,000 square feet of floor area within a single building used for warehousing activities for that year. A preliminary draft of PR 316 can be found in Appendix B.

PR 316 would individually qualify for a statutory exemption under CEQA Guidelines Section 15273 – Rates, Tolls, Fares, and Charges, however it is being included as part of the project description for clarity and to give a complete description of the proposed project.

ALTERNATIVES

The Draft EA will discuss and compare a range of reasonable alternatives to the proposed project as required by CEQA Guidelines Section 15126.6 and by South Coast AQMD Rule 110 for environmental topics areas with potentially significant adverse impacts. Alternatives must include realistic measures for attaining the basic objectives of the proposed project and provide a means for evaluating the comparative merits of each alternative. In addition, the range of alternatives must be sufficient to permit a reasoned choice and it need not include every conceivable project alternative. The key issue is whether the selection and discussion of alternatives fosters informed

decision making and public participation. A CEQA document need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.

South Coast AQMD Rule 110 (the rule which implements the South Coast AQMD's certified regulatory program) does not impose any greater requirements for a discussion of project alternatives in an EA than are required for an Environmental Impact Report (EIR) under CEQA. Alternatives will be developed based in part on the major components of the proposed project which may result in physical modifications resulting in potential environmental impacts. The rationale for selecting alternatives rests on CEQA's requirement to present "realistic" alternatives; that is alternatives that can actually be implemented. CEQA also requires an evaluation of a "no project alternative." Pursuant to CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the "no project" alternative, the CEQA document shall also identify an alternate environmentally superior alternative from among the other alternatives.

In addition, South Coast AQMD's policy document Environmental Justice Program Enhancements for fiscal year (FY) 2002-03, Enhancement II-1 recommends all South Coast AQMD environmental analysis under CEQA include and identify a feasible project alternative with the lowest air toxics emissions. In other words, for any major equipment or process type under the scope of the proposed project that creates a significant environmental impact, at least one alternative, where feasible, shall be considered from a "least harmful" perspective with regard to hazardous or toxic air pollutants.

The South Coast AQMD Governing Board may choose to adopt any portion or the entirety of any alternative presented in the EA with appropriate findings as required by CEQA because the impacts of each alternative will be fully disclosed to the public and the public will have the opportunity to comment on the alternatives and impacts generated by each alternative. Written suggestions on potential project alternatives received during the comment period for the Initial Study will be considered when preparing the Draft EA.

CHAPTER 2

ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's potential adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program; and Proposed Rule 316 – Fees for Regulation XXIII
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Ryan Bañuelos, (909) 396-3479, rbanuelos@aqmd.gov
Rules Contact Person:	Victor Juan, (909) 396-2374, vjuan@aqmd.gov
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	The proposed project is comprised of Proposed Rule (PR) 2305 and an associated mitigation program, and PR 316. PR 2305 has been developed to facilitate local and regional emission reductions associated with existing warehouses with an indoor warehouse floor space equal to or greater than 100,000 square feet within a single building and the mobile sources attracted to these warehouses. PR 316 has been developed to establish administrative fees to be paid by warehouses subject to PR 2305 to recover South Coast AQMD administrative costs associated with submittal and review of various notifications, custom WAIRE Plan evaluation, reports and mitigation fees, as well as compliance activities such as conducting desktop audits, onsite inspections, and reviewing records. Under PR 2305, operators of applicable warehouses would be subject to a WAIRE Points Compliance Obligation (WPCO) by which WAIRE Points can be earned by selecting from a menu of implementation measures: 1) acquiring and/or using NZE and ZE trucks; 2) acquiring and/or using ZE yard trucks; 3) installing and/or using ZE charging/fueling infrastructure (e.g., electric charger,

	hydrogen fuel station) for cars, trucks, and/or TRUs; 4) installing and/or using onsite energy systems (e.g., solar panels); and 5) implementing community benefits (e.g., air filters for sensitive receptors). WAIRE Points may be earned only for "surplus" actions that go beyond existing state and federal regulations. In addition, warehouse operators may apply to earn WAIRE Points through a custom WAIRE Plan specific to their operations that satisfy prescribed performance metrics. In lieu of satisfying the WPCO via implementation measures, a warehouse operator may choose to pay an optional mitigation fee to the South Coast AQMD that would be used in a mitigation program to achieve the emissions reductions. Similar to the measures used to earn WAIRE Points, the mitigation program would implement measures such as subsidizing the purchase of NZE and ZE trucks and/or the installation of charging and fueling infrastructure for ZE trucks. The mitigation program would prioritize use of the mitigation fees in areas near the warehouses using this compliance option. Therefore, the environmental impacts associated with the mitigation program are similar to implementation of measures to earn WAIRE Points and are analyzed in this NOP/IS. Implementation of the proposed project is expected to result in emission reductions of NOx and particulate matter, including diesel particulate matter, and reduced associated public health impacts from warehouse activities which will vary depending upon the implementation measures employed. While reducing emissions is an environmental benefit, the NOP/IS identifies potentially significant adverse impacts to the environmental topic areas of air quality and greenhouse gas emissions, energy, and transportation (traffic). Some warehouses that will be subject to the proposed project may be identified on lists compiled by the California Department of Toxic Substances Control per Government Code Section 65962.5.
Surrounding Land Uses and Setting:	Industrial, commercial, and residential
Other Public Agencies Whose Approval is Required:	California Air Resources Board United States Environmental Protection Agency

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with a "✓" involve at least one impact that is a "Potentially Significant Impact". An explanation relative to the determination of impacts can be found following the checklist for each area.

☐	Aesthetics	☐	Geology and Soils	☐	Population and Housing
☐	Agriculture and Forestry Resources	☐	Hazards and Hazardous Materials	☐	Public Services
☑	Air Quality and Greenhouse Gas Emissions	☐	Hydrology and Water Quality	☐	Recreation
☐	Biological Resources	☐	Land Use and Planning	☐	Solid and Hazardous Waste
☐	Cultural and Tribal Cultural Resources	☐	Mineral Resources	☑	Transportation
☑	Energy	☐	Noise	☐	Wildfire
☐	Mandatory Findings of Significance				

DETERMINATION
On the basis of this initial evaluation:

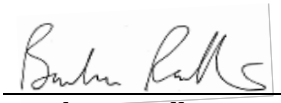
☐ I find the proposed project, in accordance with those findings made pursuant to CEQA Guidelines Section 15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.

☑ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.

☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards; and, 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: 1) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards; and, 2) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: November 12, 2020 **Signature:** 

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ENVIRONMENTAL CHECKLIST AND DISCUSSION

As explained in Chapter 1, the WAIRE program under PR 2305 provides a mechanism and accounting process by which warehouse operators can earn WAIRE Points in order to achieve emission reductions by implementing the following measures from a menu: 1) acquiring and/or using NZE and ZE trucks; 2) acquiring and/or using ZE yard trucks; 3) installing and/or using ZE charging/fueling infrastructure (e.g., electric charger, hydrogen fuel station) for cars, trucks, and/or TRUs; 4) installing and/or using onsite solar panels; and 5) implementing community benefits (e.g., air filters for sensitive receptors). In lieu of earning WAIRE Points from the WAIRE Menu, warehouse operators would have the option of either implementing an approved site-specific custom WAIRE Plan, or instead paying a mitigation fee. The South Coast AQMD would apply the collected mitigation fees to subsidize the purchase of ZE and NZE trucks and installation of ZE charging/fueling infrastructure. Analysis of PR 2305 indicates that while reducing NOx emissions from acquiring and using NZE and ZE trucks, and ZE yard trucks is an environmental benefit, secondary significant adverse environmental impacts may occur from the physical activities associated with installing or using charging/fueling infrastructure, solar panels, air filters, or carrying out activities from an approved custom plan. Some examples of potential custom WAIRE Plans include upgrades to a warehouse's energy system, installing offsite ZE charging/fueling infrastructure, demonstrating early or over-compliance with CARB rules (e.g., exceeding requirements for CARB's upcoming TRU regulation). Additional options may be proposed by warehouse operators in the future; however, it is speculative at this time to determine the full range of options that may be implemented in the future. If future custom WAIRE Plan applications propose actions that may have environmental impacts beyond the scope of the CEQA analysis conducted for PR 2305, then additional CEQA review will be conducted at that time.

PR 2305 also contains other proposed requirements which are administrative or procedural in nature (e.g., reporting, notification and recordkeeping requirements) and would not require any physical modifications to occur at any of the affected warehouses and thus, would not cause any environmental impacts.

In addition, South Coast AQMD staff has developed PR 316 which establishes an annual fee to be paid by warehouses subject to PR 2305 to recover South Coast AQMD administrative costs associated with submittal and review of various notifications, reports and mitigation fees, as well as compliance activities associated with conducting desktop audits, onsite inspections, and reviewing records. Since PR 316 is a fee rule meant to recover costs associated with the administration of PR 2305, it is administrative in nature and its implementation is not expected to cause any environmental impacts.

For these reasons, the focus of the analysis in this NOP/IS is limited to the potential secondary adverse environmental impacts associated with physical activities expected to occur at the affected warehouses in response to complying with PR 2305. While operators of warehouse facilities have the option to comply with PR 2305 by either selecting items from the WAIRE Menu, implementing an approved custom WAIRE Plan, or paying a mitigation fee to meet the WPCO, no particular approach to achieving compliance is prescribed. As such, Table 2-1 presents all options available to warehouse operators and identifies the type of corresponding physical activities that would be expected to result in potential secondary adverse impacts by environmental topic.

Table 2-1
PR 2305 Compliance Options with Potential Physical Activities and Environmental Impacts

PR 2305 Compliance Option with Potential Physical Effects	Construction Impacts?	Operational Impacts?	Environmental topic areas potentially affected
Acquiring and/or using on-road NZE and ZE trucks	Yes, if infrastructure needs to be built (e.g., electric chargers or hydrogen fueling stations for ZE trucks and natural gas fueling stations for NZE trucks)	Yes, from: - increased use of electricity or hydrogen for ZE trucks - increased use of natural gas for NZE trucks - battery replacement - increase in VMT	- Air Quality and GHG Emissions - Energy - Hazards and Hazardous Materials - Solid and Hazardous Waste - Transportation
Acquiring and/or using ZE yard trucks	Yes, if infrastructure needs to be built (e.g., electric chargers for ZE equipment)	Yes, from: - increased use of electricity for ZE yard trucks - battery replacement	- Air Quality and GHG Emissions - Energy - Solid and Hazardous Waste
Installing and/or using ZE charging/fueling infrastructure for cars, trucks and/or TRUs (e.g., electric chargers or hydrogen fueling stations for ZE vehicles)	Yes	Yes, from: - increased use of electricity for ZE vehicles - increased use of natural gas for NZE vehicles - increase in VMT	- Air Quality and GHG Emissions - Energy - Hazards and Hazardous Materials - Hydrology and Water Quality - Noise - Transportation
Installing and/or using Solar Panels	Yes	Yes, from: - increased use of renewable electricity - battery replacement - increase in VMT	- Air Quality and GHG Emissions - Energy - Hydrology and Water Quality - Noise - Solid and Hazardous Waste - Transportation
Installing high-efficiency filters or filter systems in residences, schools, daycares, hospitals, or community centers	Yes	Yes, from: - maintenance activities and filter replacement - energy penalty from using HEPA filters	- Air Quality and GHG Emissions - Energy - Solid and Hazardous Waste - Transportation

PR 2305 would result in an increase in construction related trips, the generation of noise, the use of construction equipment, soil disturbance, and the use of construction related hazardous materials. Increased construction related trips and the use of construction materials would temporarily generate air quality and GHG emissions and increase the demand for energy. The use of hazardous materials could impact the public or the environment through routine or accidental transport, use, or disposal. Furthermore, soil disturbance could affect water quality through erosion and siltation.

The installation of onsite ZE charging/fueling infrastructure and solar panels would require some diesel powered construction equipment (e.g., delivery trucks, trenchers, backhoes, etc.) however it is typically no larger or noisier than the diesel powered trucks already operating at a warehouse. At the same time, noise from the operation of ZE trucks or yard trucks is quieter than the equivalent diesel powered vehicles that are typically used. Any new equipment or infrastructure would be subject to project-level review, including review of noise levels based on the jurisdiction's noise standard, as applicable. Therefore, PR 2305 would not generate noise levels in in excess of standards established in a local general plan, noise ordinance, or any other applicable noise standards.

PR 2305 is expected to result in operational impacts from an increased demand for and use of Class 2b through 8 ZE and NZE trucks and equipment which in turn, would also result in an increased use of electricity, hydrogen, and natural gas. Currently, there are no commercially available Class 8 ZE trucks; however, several Class 8 trucks are currently in the demonstration phase and their penetration into the market is imminent. Some truck manufacturers are beginning to release Class 2b through 7 ZE trucks, and more models are anticipated in the coming years. Furthermore, implementation of PR 2305 would result in an energy penalty from using HEPA filters and hazardous materials generated from the maintenance and replacement of air filters and batteries. PR 2305 could also increase distances trucks travel if warehouses relocate and/or vehicles seek out NZE/ZE charging/fueling stations.

In general, this CEQA document uses a "worst-case" approach so that whenever an assumption is made, those assumptions that result in the greatest potentially significant adverse impacts are typically chosen. This method ensures that environmental impacts from the proposed project are documented for decision-makers and the general public. Accordingly, the analysis in the following NOP/IS uses a conservative "worst-case" approach for analyzing the potentially significant adverse impacts.

Potential for Warehouse Relocation

The South Coast AQMD has funded a study to evaluate how different sectors within the warehousing industry (e.g., cold storage versus import facilities, etc.) may respond to the proposed project to determine the likelihood as to whether warehouse activities would relocate to areas outside of South Coast AQMD's jurisdiction. This study is under way and the results will be used together with the socioeconomic analysis to inform the rule development and the Draft EA. If it is considered possible that some warehouses will relocate because of the proposed project, then the potential environmental impacts, if any, of this activity will be included in the Draft EA to the extent that potential adverse environmental impacts are reasonably foreseeable and not speculative, in accordance with CEQA Guidelines Section 15145. Potential impacts may be difficult to forecast because: 1) existing business could relocate due to changes in market conditions rather than socio-economic effects of the rule; 2) existing warehouse operators could lease space in existing warehouses rather than construct new facilities; and 3) it is speculative to identify where the new warehouse site(s) could be (CEQA Guidelines Section 15144).

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I.	**AESTHETICS.** Except as provided in Public Resources Code Section 21099, would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point(s).) If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?	☐	☐	☐	☑
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block public views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of public views of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing and using NZE and ZE charging and fueling infrastructure, and installing and using solar panels would be expected to have impacts to the topic of aesthetics. As such, the following responses to the checklist questions limit the discussion to these activities. Both construction and operational impacts are discussed as applicable.

I. a), b) c) & d) No Impact. For the purpose of determining significance under CEQA, a scenic vista is generally considered a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Some scenic vistas are officially designated by public agencies, or informally designated by tourist guides. Vistas provide visual access or panoramic views to a large geographic area and are generally located at a point where surrounding views are greater than one mile away. Panoramic views are usually associated with vantage points

over a section of urban or natural areas that provide a geographic orientation not commonly available. Examples of panoramic views might include an urban skyline, valley, mountain range, a large open space area, the ocean, or other water bodies. A substantial adverse effect to a scenic vista is one that degrades the view from such a designated view spot.

A scenic highway is generally considered a stretch of public roadway that is designated as a scenic corridor by a federal, state, or local agency. Caltrans defines a scenic highway as any freeway, highway, road, or other public right of way, that traverses an area of exceptional scenic quality.

While construction of new warehouses is not required, under PR 2305, operators of existing warehouses and/or warehouse and fleet operators may replace trucks with ZE and NZE trucks in order to earn a sufficient number of WAIRE Points to meet the WPCO. However, the presence and appearance of the ZE and NZE trucks necessary to achieve the WPCO are not expected to be substantially different than existing diesel trucks.

Other options to achieve the WPCO include installing ZE charging/fueling infrastructure, and installation and use of solar panels at existing warehouses. Since the affected warehouses are located in existing industrial areas, any construction equipment needed to install infrastructure (e.g., installing ZE charging/fueling infrastructure, and installation and use of solar panels at existing warehouses) is not expected to be substantially discernable from other off-road equipment that exists onsite for routine operations and maintenance activities. Further, the construction activities are not expected to adversely impact views and aesthetics resources since most of the construction equipment and activities are expected to occur at existing warehouse facilities and are expected to introduce only minor visual changes, if at all, depending on the location of the construction activities at each affected warehouse. In addition, the construction activities are expected to be temporary in nature and will cease following the completion of infrastructure installation. Once construction is completed, all construction equipment will be removed from each warehouse.

Construction of the infrastructure, once built, may result in slight changes to the appearance of the affected warehouses post-construction. However, due to the nature of the infrastructure installations, any altered appearances will be minor and will not substantially alter the visual character of the existing warehouses. For example, the installation of solar panels on roofs are not expected to be substantially discernable from the ground and are expected to introduce only minor visual changes from outside each warehouse, if at all.

Furthermore, the appearance of ZE charging/fueling infrastructure and solar panels would result in slight changes to the appearance of the installation location and would not affect the aesthetic quality of the area. Such projects would also need to obtain city or county planning department approvals prior to commencement of any construction activities and would be subject to project-level review, including review of aesthetic impacts under CEQA, as applicable.

For facilities that are located within the views of a scenic vista or state scenic highway, the local city or county planning department would assess aesthetics impacts, if any, prior to commencement of any construction activities. Therefore, implementation of PR 2305 would have no substantial adverse effect on scenic vistas or other scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Also, any changes to buildings or structures will require approvals from the local city or county planning departments to assess compliance with zoning requirements. For this reason, PR 2305 would not be expected to conflict with applicable zoning or other regulations governing scenic quality.

Therefore, the replacement vehicles, equipment, and/or infrastructure as part of implementing PR 2305 would not be expected to adversely affect a scenic vista, obstruct scenic resources within a state scenic highway, or degrade the existing visual character or quality of public views.

PR 2305 does not include any components that would require construction activities to occur at night. Further, cities often have their own limitations and prohibitions that restrict construction from occurring during evening hours and weekends. Therefore, no additional temporary construction lighting at the existing warehouses would be expected. However, if warehouse operators determine that the construction schedule requires nighttime activities, temporary lighting may be required but would be subject to approvals from the local city or county planning departments. Furthermore, during operation, additional light or glare would not be created which would adversely affect day or nighttime views in the area since no light generating equipment would be required to comply with PR 2305.

Solar panels may generate glare; however, the amount of glare depends on the angle of installation and on the specific product installed. Different types of solar panels absorb different amounts of light. Some solar panels include an anti-reflective layer to maximize absorption and minimize glare. Solar panel reflectivity is generally lower than that of other building materials (such as glass or steel). Furthermore, new solar panel systems would be required to abide by local county and city ordinances that require new sources of light and glare to be minimized. Therefore, installation of solar panels would not result in substantial glare.

Nonetheless, for construction activities that would be located within the boundaries of each affected warehouse, additional temporary lighting is not expected to be discernable from the existing permanent night lighting. For these reasons, the proposed project would not create a new source of substantial light or glare at any of the affected facilities in a manner that would adversely affect day or nighttime views in the surrounding areas. Any offsite activities near applicable warehouses would be subject to a project-level CEQA review.

Conclusion

Based upon these considerations, significant adverse aesthetics impacts are not expected from implementing the proposed project. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FORESTRY RESOURCES.** Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☑
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e)	Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☑

Significance Criteria

Project-related impacts on agriculture and forest resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).

- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion
While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing NZE and ZE charging and fueling infrastructure and installing solar panels would be expected to have impacts to the topic of agriculture and forestry resources. As such, the following responses to the checklist questions limit the discussion to these activities.

II. a), b), c), d) & e) No Impact. Pursuant to the California Land Conservation Act of 1965, a Williamson Act Contract enables private landowners to voluntarily enter into contracts with local governments for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive lower property tax assessments based upon farming and open space uses as opposed to full market value.

Under PR 2305, existing warehouse operators and/or warehouse and fleet operators might replace (purchase and use) trucks with ZE and NZE trucks in order to earn a sufficient number of WAIRE Points to meet the WPCO. Other options to achieve the WPCO include installing ZE charging/fueling infrastructure, and installation of solar panels at existing warehouses. While construction of new warehouses is not required, the proposed project may involve the installation of ZE charging/refueling infrastructure near applicable warehouses. Improvements would continue to be subject to project-level review, including review of agricultural impacts under CEQA, as applicable. Therefore, implementation of the proposed project would not affect Prime Farmland, Unique Farmland, or Farmland of Statewide Importance or conflict with a Williamson Act contract if the proposed project is implemented.

Physical changes associated with PR 2305 will be at previously developed sites and would not warrant construction in undeveloped areas where agricultural and forest resources are more likely to occur. Therefore, PR 2305 would not conflict with existing zoning for, or cause rezoning of, forest land or timberland zoned Timberland Production. Additionally, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use.

Conclusion
Based upon these considerations, significant adverse agricultural and forest resources impacts are not expected from implementing the proposed project. Since no significant agriculture and forest resources impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☑	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☑	☐	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☑	☐
e) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑	☐
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☑	☐	☐	☐
g) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☑	☐	☐	☐

Significance Criteria

To determine whether or not air quality and greenhouse gas impacts from implementing the proposed project are significant, impacts will be evaluated and compared to the criteria in Table 2-2. The proposed project will be considered to have significant adverse impacts if any one of the thresholds in Table 2-2 are equaled or exceeded.

Table 2-2
South Coast AQMD Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction [b]**	**Operation [c]**
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO_2eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants [d]		
NO_2 1-hour average annual arithmetic mean	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour average annual average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation) 1.0 μg/m^3	
$PM_{2.5}$ 24-hour average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation)	
SO_2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 μg/m^3 (state)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average	1.5 μg/m^3 (state) 0.15 μg/m^3 (federal)	

[a] Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on South Coast AQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million μg/m^3 = microgram per cubic meter ≥ = greater than or equal to
MT/yr CO_2eq = metric tons per year of CO_2 equivalents > = greater than

Revision: April 2019

Discussion
All the activities identified in Table 2-1 would be expected to have impacts to the topic of air quality and greenhouse gas emissions. As such, the following responses to the checklist questions discuss these activities. Both construction and operational impacts are addressed as applicable.

III. a) No Impact. Warehouses subject to PR 2305 are located within the jurisdiction of South Coast AQMD. In March 2017, the South Coast AQMD approved the Final 2016 AQMP aimed at meeting the state and federal ambient air quality standards for ozone and PM2.5. The key strategy set forward in the 2016 AQMP to meet air quality challenges in South Coast AQMD's jurisdiction is to reduce NOx emissions sufficiently to meet the 8-hour ozone NAAQS deadlines. One of the critical control measures within the 2016 AQMP for reducing NOx emissions included the development of a facility-based measure for warehouses (MOB-03). PR 2305 is the resulting proposed approach to satisfy that control measure. 2016 AQMP for reducing NOx emissions included the development of a facility-based measure for warehouses (MOB-03). PR 2305 is the resulting proposed approach to satisfy that control measure.

Consistent with control measure MOB-03, PR 2305 is expected to reduce emissions associated with on- and off-road equipment operating at warehouses which in turn will contribute to attaining the state and federal ambient air quality standards. Thus, because PR 2305 implements control measure MOB-03 it is not expected to conflict or obstruct implementation of the 2016 AQMP. Therefore, implementing PR 2305 would not diminish an existing air quality rule or future compliance requirement, nor conflict with or obstruct implementation of the applicable air quality plan and this will not be discussed further in the Draft EA.

III. b), c) f), and g) Potentially Significant Impact. The following describes impacts from short-term construction activities and long-term operation of the proposed project.

Short-Term Construction-Related Air Quality Impact
Construction activities pursuant to PR 2305 would result in the generation of air pollutants from: 1) exhaust emissions from off-road diesel-powered construction equipment; 2) dust generated from site preparation, earthmoving, and other construction activities; 3) exhaust emissions from on-road vehicles and 4) off-gas emissions of volatile organic compounds (VOCs) from application of asphalt, paints, and coatings.

Construction activities related to new ZE charging/refueling infrastructure, solar panels, or community benefits projects (e.g., new HVAC systems to filter particulates) would occur at existing warehouses. Therefore, this impact is potentially significant and will be discussed in more detail in the Draft EA.

Long-Term Operation-Related Air Quality Impact
Additional analysis is required to identify the potential impacts associated with changes in truck fleet/type and associated emissions from implementation of PR 2305. Therefore, impacts associated with acquiring and using on-road NZE and ZE trucks, and acquiring and using ZE yard trucks is potentially significant and will be discussed in more detail in the Draft EA.

III. d) Less Than Significant. The threshold for an odor impact is if a project creates an odor nuisance pursuant to Rule 402 (Nuisance), which states:

"A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

The type of facilities that are considered to have objectionable odors include wastewater treatment plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The measures proposed by PR 2305 do not fall within the aforementioned land uses. Additionally, while PR 2305 may result in new infrastructure constructed to comply with some of the WAIRE Menu items at affected facilities, these facilities already operate diesel equipment and trucks. Regarding odors, currently, for all existing diesel-fueled equipment and vehicles, the diesel fuel is required to have a low sulfur content (e.g., 15 ppm by weight or less) in accordance with South Coast AQMD Rule 431.2 – Sulfur Content of Liquid Fuels[13]. Such fuel is expected to minimize odor. The proposed project has the potential to reduce use of diesel equipment and trucks onsite and reduce odors further. In the event that a facility elects to install EV chargers or solar energy systems to earn WAIRE points, operation of the new EV chargers or solar systems are not expected to generate any new odors because these devices are electric. Further, compliance with PR 2305 would mean that some odorous trucks and warehouse equipment would be electrified, such that the existing odor profiles at the affected facilities would be reduced. Thus, PR 2305 is not expected to create significant adverse objectionable odors during operation.

Additionally, emissions from construction equipment, such as diesel exhaust and volatile organic compounds from paving activities, might generate odors. However, these odors would be low in concentration, temporary, and are not expected to affect a substantial number of people. Any odors produced during the construction phase are not expected to be significant or highly objectionable and would be in compliance with Rule 402. Diesel fueled construction equipment would also comply with South Coast AQMD Rule 431.2 – Sulfur Content of Liquid Fuels, which is expected to minimize odor. The operation of construction equipment will occur within the confines of existing affected facilities. Dispersion of diesel emissions over distance generally occurs so that odors associated with diesel emissions may not be discernable to offsite receptors, depending on the location of the equipment and its distance relative to the nearest offsite receptor. Further, the diesel trucks that will be operated onsite will not be allowed to idle longer than five minutes per any one location in accordance with the CARB idling regulation, so odors from these vehicles would not be expected for a prolonged period of time. Therefore, the addition of several pieces of construction equipment and trucks that will operate intermittently, over a relatively short period of time, are not expected to generate diesel exhaust odor substantially greater than what is already typically present at the affected facilities.

Therefore, impacts would be less than significant, no mitigation measures are necessary, and this will not be discussed further in the Draft EA.

III. e) Less than Significant. The determination of whether a proposed project would diminish an existing air quality rule or future compliance requirement resulting in a significant increase in

[13] South Coast AQMD, Rule 431.2 – Sulfur Content of Liquid Fuels, September 15, 2000. http://www.aqmd.gov/docs/defaultsource/rule-book/rule-iv/rule-431-2.pdf

air pollutant(s) is dependent on construction and operational activities associated with the PR 2305. While PR 2305 does not contain any requirements for warehouses to build infrastructure to comply with the WAIRE program, some WAIRE Menu items may be expected to cause existing warehouses to make physical modifications that may require some construction activities as well as operational changes, once construction is completed. However, all construction activities would abide by local and regional regulations and PR 2305 is expected to reduce operational emissions associated with emission sources operating in and out of warehouse distribution centers. Therefore, development pursuant to PR 2305 is not expected to diminish an existing air quality rule or future compliance requirement or result in a significant increase in air pollutant(s). Impacts would be less than significant, and this will not be discussed further in the Draft EA.

Conclusion

Based upon these considerations, significant construction related air quality and GHG emissions impacts may occur from the installation of ZE charging/refueling infrastructure, solar panels, or community benefits projects (e.g., new HVAC systems to filter particulates). Significant operational impacts may also arise from using on-road NZE and ZE trucks and ZE yard trucks. These impacts will be further analyzed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing and using NZE and ZE charging and fueling infrastructure and installing and using solar panels would be expected to have impacts to the topic of biological resources. As such, the following responses to the checklist questions limit the discussion to these activities. Both construction and operational impacts are discussed as applicable.

IV. a), b), c), d), e) & f) No Impact. PR 2305 would offer several compliance options that facilities could implement to reduce emissions from warehouses to achieve the WPCO. PR 2305 would not require or induce new warehouse development however; PR 2305 might result in the onsite installation of ZE charging/fueling infrastructure and solar panels. Warehouse sites have already been disturbed and typically do not contain open space, water features, or natural vegetation. Sites might contain landscaping that consist of ornamental trees and turf. The sites of the affected facilities that would be subject to PR 2305 currently do not support riparian habitat, federally protected wetlands, or migratory corridors because they are existing developed and established facilities currently used for industrial, manufacturing, or warehouse purposes. Additionally, special status plants, animals, or natural communities identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service are not expected to be found on or in close proximity to the affected facilities because the affected facilities are in existing industrial, commercial or mixed land use areas. Further, activities resulting from the compliance of the proposed project would be subject to project-level review, including review of biological impacts under CEQA, as applicable. Any offsite installation of ZE charging/refueling infrastructure near applicable warehouses would also be subject to a project-level CEQA review.

Additionally, PR 2305 would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan, and would not create divisions in any existing communities because onsite activities associated with complying with PR 2305 would occur at existing facilities in previously disturbed areas which are not typically subject to Habitat or Natural Community Conservation Plans. Any offsite installation of ZE charging/refueling infrastructure near applicable warehouses would also be subject to a project-level CEQA review.

Conclusion

Based upon these considerations, significant biological resource impacts are not expected from implementing the proposed project. Since no significant biological resource impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
V.	**CULTURAL AND TRIBAL CULTURAL RESOURCES.** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☑	☐
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☑	☐
d)	Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074, as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is either:				
	• Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☐	☐	☑
	• A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c)? (In applying the criteria set forth in Public Resources Code Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.)	☐	☐	☐	☑

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance, or tribal cultural significance to a community or ethnic or social group or a California Native American tribe.
- Unique resources or objects with cultural value to a California Native American tribe are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing and using NZE and ZE charging and fueling infrastructure and installing and using solar panels would be expected to have impacts to the topic of cultural resources. As such, the following responses to the checklist questions limit the discussion to these activities. Both construction and operational impacts are discussed as applicable.

V. a) No Impact. Existing laws are in place to protect and mitigate potential impacts to cultural resources. For example, CEQA Guidelines state that generally, a resource shall be considered "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources, which include the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;
- Has yielded or may be likely to yield information important in prehistory or history (CEQA Guidelines Section 15064.5).

Buildings, structures, and other potential culturally significant resources that are less than 50 years old are generally excluded from listing in the National Register of Historic Places, unless they are shown to be exceptionally important. Any of the buildings or structures that may be affected by PR 2305 that are older than 50 years are buildings that are currently utilized for manufacturing or warehousing purposes and would generally not be considered historically significant since they would not have any of the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values. Further, historic resources generally consist of buildings, structures, improvements, and remnants associated with a significant historic event or person(s) and/or have a historically significant style, design, or achievement. Damaging or demolition of historic resources is typically considered to be a significant impact. Impacts to historic resources can occur through direct impacts, such as destruction or removal, and indirect impacts, such as a change in the setting of a historic resource. Any projects pursuant to PR 2305 would occur at or near existing warehouses. Warehouses are generally not historic resources and are not located in historic districts. Additionally, the proposed project would not result in demolition of existing warehouses. Minor modifications to the existing structures to support EV charging equipment, solar panels, and/or natural gas fueling equipment. Construction pursuant to PR 2305 would need to obtain city or county planning department approvals prior to commencement of any construction activities and would be subject to project-level review, including review of historic impacts under CEQA, if

applicable. Therefore, PR 2305 is not expected to cause any impacts to significant historic cultural resources.

V. b) & c) Less Than Significant Impact. Archaeological sites are locations that contain resources associated with former human activities, and might contain such resources as human skeletal remains, waste from tool manufacture, tool concentrations, and/or discoloration or accumulation of soil or food remains. Construction activities associated with the proposed project, such as installation of EV charging stations and solar panels, would occur at warehouse sites that have been previously disturbed. The type of construction that could occur on applicable existing warehouses would not require excavation that goes beyond currently disturbed ground cover. However, for the installation of ZE charging/refueling infrastructure near warehouse sites, ground-disturbing activities have the potential to reveal buried deposits not observed on the surface or to disturb human remains including those interred outside of dedicated cemeteries. Activities that result from compliance with the proposed project would be subject to project-level review, including review of cultural impacts under CEQA, as applicable.

Construction-related activities are expected to be confined within the existing footprint of the affected facilities that have already been fully developed and paved, PR 2305 is not expected to require physical changes to the environment which may disturb paleontological or archaeological resources. Furthermore, in the event that human remains are discovered during any future grading or other ground disturbing activities, the proposed activities would be required to comply with the applicable provisions of Health and Safety Code Section 7050.5 as well as Public Resources Code Section 5097 et. seq. Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin. Pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made by the Coroner.

If the Coroner determines the remains to be Native American, the California Native American Heritage Commission (NAHC) must be contacted and the NAHC must then immediately notify the "most likely descendant(s)" of receiving notification of the discovery. The most likely descendant(s) shall then make recommendations within 48 hours and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.
PR 2305 would result in replacement of heavy-duty trucks and installation and/or replacement of structures, equipment, and infrastructure at or near warehouses. No physical changes to roadways will occur and the only new offsite structures might include ZE charging/refueling infrastructure near applicable warehouses. Offsite activities that result from compliance with the proposed project would be subject to project-level review, including review of agricultural impacts under CEQA, as applicable.

As such, the proposed project will not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5 or disturb any human remains, including those interred outside of formal cemeteries. Impacts would be less than significant.

V. d) Less Than Significant Impact. Refer to section V.a above, since warehouses are not historic resources and are not located in historic districts changes made at or near warehouses would not cause a substantial adverse change in the significance of a historical resource. Furthermore, as part of releasing this CEQA document for public review and comment, the South Coast AQMD also provided a formal notice of the proposed project to all California Native American Tribes (Tribes)

that requested to be on the Native American Heritage Commission's (NAHC) notification list per Public Resources Code Section 21080.3.1(b)(1). The NAHC notification list provides a 30-day period during which a Tribe may respond to the formal notice, in writing, requesting consultation on the proposed project.

In the event that a Tribe submits a written request for consultation during this 30-day period, the South Coast AQMD will initiate a consultation with the Tribe within 30 days of receiving the request in accordance with Public Resources Code Section 21080.3.1(b). Consultation ends when either: 1) both parties agree to measures to avoid or mitigate a significant effect on a Tribal Cultural Resource and agreed upon mitigation measures shall be recommended for inclusion in the environmental document [see Public Resources Code Section 21082.3(a)]; or, 2) either party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. [Public Resources Code Section 21080.3.2(b)(1)-(2) and Section 21080.3.1(b)(1)].

Furthermore, the provisions of CEQA, Public Resources Code Sections 21080.3.1 et seq. (also known as AB 52), requires meaningful consultation with California Native American Tribes on potential impacts to tribal cultural resources, as defined in Public Resources Code Section 21074. Tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either eligible or listed in the California Register of Historical Resources or local register of historical resources (CNRA 2018). As part of the AB 52 process, Native American tribes must submit a written request to the relevant lead agency if it wishes to be notified of projects that require CEQA public noticing and are within its traditionally and culturally affiliated geographical area.

Construction resulting from PR 2305 would need to obtain city or county planning department approvals prior to commencement of any construction activities and would be subject to project-level review, including separate tribal consultation under AB 52, as applicable, to address site-specific requests identified by the tribes. Therefore, impacts to tribal cultural resources are less than significant.

Conclusion

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing the proposed project. Since no significant cultural and tribal cultural resources impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI.	**ENERGY.** Would the project:				
a)	Conflict with or obstruct adopted energy conservation plans, a state or local plan for renewable energy, or energy efficiency?	☐	☐	☑	☐
b)	Result in the need for new or substantially altered power or natural gas utility systems?	☑	☐	☐	☐
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☑	☐	☐	☐
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☑	☐	☐	☐
e)	Comply with existing energy standards?	☐	☐	☑	☐
f)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☑	☐
g)	Require or result in the relocation or construction of new or expanded electric power, natural gas or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☑	☐	☐	☐

Significance Criteria

Impacts to energy resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses energy resources in a wasteful and/or inefficient manner.

Discussion
All the activities identified in Table 2-1 would be expected to have impacts to the topic of energy. As such, the following responses to the checklist questions discuss these activities. Both construction and operational impacts are addressed as applicable.

VI. a), e), & **f) Less than Significant.** PR 2305 does not require any action which would result in any conflict with an adopted energy conservation or efficiency plan or result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Any existing or future facilities that implement the requirements of PR2305 would be expected to continue implementing any existing energy conservation plans that are currently in place regardless of whether the proposed project is implemented.

Additionally, PR 2305 does not require any measures which would conflict with a state or local plan for renewable energy. Renewable energy sources include wind, small hydropower, solar, geothermal, biomass, and biogas. The California Renewables Portfolio Standard (RPS) was established in 2002 under Senate Bill 1078 (SB 1078) and was amended in 2006 and 2011. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. Executive Order S-14-08, signed in November 2008, expanded the state's RPS to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). SB 350, de Leon was signed into law September 2015 and establishes tiered increases to the RPS. SB 350 requires renewable energy resources of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures. On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under SB 100 the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target. Electricity production from renewable sources is generally considered carbon neutral. WAIRE Menu options include solar panels and storage. Therefore, the proposed project would not obstruct a state or local plan for renewable energy.

VI. b), c), d) & g) Potentially Significant Impact.

Construction
Construction activities pursuant to PR 2305 would consume energy, in the short term, due to gasoline and/or diesel fuel and electricity consumed by construction vehicles and equipment. Construction activities may require the use of energy-consuming construction equipment for grading, hauling, and building activity. Electricity use during construction activities is expected to vary depending on which phase of construction is occurring—with the majority of construction-related energy consumption resulting from fossil fuel use such as gasoline or diesel fuel occurring during activities such as grading and the majority of electricity use occurring during the later construction phases which may require more electric powered equipment. The use of electricity during construction would be temporary and would fluctuate according to the phase of construction. Furthermore, construction pursuant to PR 2305 would need to obtain city or county planning department approvals prior to commencement of any construction activities and would

be subject to project-level review, including review of energy impacts under CEQA, if applicable. Therefore, impacts from construction vehicles and equipment are assumed to be less than significant and will not be discussed further in the EA.

Construction transportation energy use depends on the type of vehicle, number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction activities is derived from the use of gasoline and diesel fuel consumption required to operate vendor trucks that provide deliveries of equipment and building materials, as well as worker vehicles as they commute to construction sites. Construction transportation energy could be potentially significant and will be discussed further in the EA.

Operation

Once construction is completed, operation of projects implemented by owners and operators of warehouses pursuant to PR 2305 could create additional demands for electricity, hydrogen, and natural gas compared to existing conditions. In addition, warehouse operators and owners may comply with PR 2305 by installing solar panels which would reduce the need for additional energy resources from local utilities.

The proposed measures pursuant to PR 2305 would result in an increase in electricity, hydrogen, and/or natural gas consumption during the operational phase. Electricity, hydrogen, and natural gas would be used to charge and fuel trucks, TRUs, and cargo handling equipment (CHE). Implementation of PR 2305 would also result in an energy penalty from the use of HEPA filters. Existing warehouses would be expected to comply with existing energy regulations in accordance with existing standards and additional requirements in local zoning codes. During the local land use permit process, the project proponent might be required by the local jurisdiction or energy utility to undertake a site-specific CEQA analysis to determine the impacts, if any, associated with the siting and construction of new infrastructure to support the electricity, hydrogen, or natural gas demands of the WAIRE Menu options needed to achieve the WPCO.

Pursuant to PR 2305 warehouses may choose to switch to ZE or NZE trucks and ZE truck yards, or use NZE and ZE charging and fueling infrastructure and as such would require more electricity or natural gas and may warrant additional infrastructure to service warehouses that utilize solar energy systems for WAIRE Points to achieve their WPCO. Therefore, this impact is potentially significant and will be discussed in more details in the Draft EA.

Conclusion

Based upon these considerations, significant impacts from energy use for construction related trips may occur. Significant operational impacts may also arise from using on-road NZE and ZE trucks and ZE yard trucks and installing NZE and ZE charging and fueling stations. These impacts will be further analyzed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII.	**GEOLOGY AND SOILS.** Would the project:				
a)	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☑	☐
	• Strong seismic ground shaking?	☐	☐	☑	☐
	• Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
	• Landslides?	☐	☐	☑	☐
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑	☐
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☑	☐
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☑	☐

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.
- Unique paleontological resources or sites or unique geologic features are present that could be directly or indirectly destroyed by the proposed project.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing and using NZE and ZE charging and fueling infrastructure and installing and using solar panels would be expected to have impacts to the topic of geology and soils. As such, the following responses to the checklist questions limit the discussion to these activities. Both construction and operational impacts are discussed as applicable.

VII. a) Less Than Significant Impact. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. Surface rupture is the most easily avoided seismic hazard. Fault rupture generally occurs within 50 feet of an active fault line and is limited to the immediate area of the fault zone where the fault breaks along the surface. The main purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to prevent construction of buildings used for human occupancy on the surface of active faults, in order to minimize the hazard of surface rupture of a fault to people and habitable buildings. Before cities and counties can permit development within Alquist-Priolo Earthquake Fault Zones, geologic investigations are required to show that a proposed development site is not threatened by surface rupture from future earthquakes. Therefore, any future project development near existing warehouses would not subject people or structures to hazards arising from surface rupture of a known active fault.

The most significant geologic hazard to the design life of any project associated with PR 2305 is the potential for moderate to strong ground shaking resulting from earthquakes generated on the faults in seismically active southern California. It is anticipated that future projects would likely be subject to strong ground shaking due to earthquakes on nearby faults. The intensity of ground shaking would depend on the magnitude of the earthquake, distance to the epicenter, and the geology of the area between the epicenter and the project sites. However, the warehouses affected by PR 2305 are not at a greater risk of seismic activity or impacts than other sites in southern California.

The California Building Code (CBC; California Code of Regulations, Title 24, Part 2) contains provisions to safeguard against major structural failures or loss of life caused by earthquakes or other geologic hazards. The CBC contains provisions for earthquake safety based on factors including the types of soil and rock onsite, and the strength of ground motion with specified

probability of occurring at the site. Additionally, Section 1803.2 of the 2019 CBC, requires a geotechnical investigation that must evaluate soil classification, slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on soil-bearing capacity, compressibility, liquefaction, and expansiveness, as necessary. The geotechnical investigation must be prepared by registered professionals (i.e., California Registered Civil Engineer or Certified Engineering Geologist). Recommendations of the report pertaining to structural design and construction recommendations for earthwork, grading, slopes, foundations, pavements, and other necessary geologic and seismic considerations must be incorporated into the design and construction of the proposed project. PR 2305 does not cause or require new warehouses to be constructed, however owners or operators of warehouses may choose WAIRE Menu items that would result in construction activities. These activities would be required to adhere to the provisions of the CBC. Compliance with the requirements of the CBC for structural safety during a seismic event would reduce hazards from strong seismic ground shaking to less than significant.

Liquefaction is a phenomenon that occurs when soil undergoes a transformation from a solid state to a liquified condition. It refers to loose, saturated sand or silt deposits that behave as a liquid and lose their load-supporting capability when strongly shaken. Loose granular soils and silts that are saturated by relatively shallow groundwater are susceptible to liquefaction. When subjected to seismic ground shaking, affected soils loose strength during liquefaction and foundation failure can occur. Landslides are the downslope movement of geologic materials. Slope failures in the form of landslides are common during strong seismic shaking in areas of steep hills.

Installation of ZE charging/fueling infrastructure and solar panels may require a geotechnical investigation, as required by the CBC, to evaluate geohazards, like liquefaction potential of underlying soils. For such facilities that would be installed onsite at existing warehouses, a geotechnical investigation would already be available. Grading, design, and construction work would conform with the recommended design parameters of the geotechnical investigation. Cities and counties would impose the recommended design parameters as a condition of any required planning approval, and compliance would be ensured through plan checks and development review processes. Compliance with the requirements of the CBC would reduce hazards from liquefaction and landslides to less than significant.

VII. b) Less Than Significant Impact. Erosion is the movement of rock and soil from place to place and is a natural process. Common agents of erosion include wind and flowing water. Significant erosion typically occurs on steep slopes where stormwater and high winds can carry topsoil down hillsides. Erosion can be increased greatly by earthmoving activities if erosion-control measures are not used.

Installation of ZE charging/refueling infrastructure and solar panels, subsequent to adoption of PR 2305 could involve excavation, grading, and construction activities that would disturb soil and leave exposed soil on the ground surface. Soil erosion at construction sites could be caused by water, wind, or vehicles tracking soil offsite. However, projects that occur as a result of PR 2305 would have a small construction footprint, and would be subject to local, regional, and state codes and requirements for erosion control and grading during construction. Projects would be subject to the National Pollution Discharge Elimination System (NPDES) permitting regulations, including the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) as applicable. Construction contractors would be required to prepare and implement a SWPPP and associated Best Management Practices (BMPs) in compliance with the Construction

General Permit (CGP) during grading and construction of any site that disturbs more than one acre of land. Adherence to the BMPs in the SWPPP and adherence with local, regional, and state codes and requirements for erosion control and grading during construction would reduce, prevent, or minimize soil erosion from grading and construction activities. Therefore, soil erosion impacts would be less than significant.

VII. c) & d) Less Than Significant Impact. Hazards from liquefaction and lateral spreading are addressed above in VII.a. As concluded in that section, impacts would be less than significant, and no mitigation measures are necessary. Following is a discussion of the potential impacts resulting from other geologic and soil conditions.

Lateral Spreading
Lateral spreading is a phenomenon that occurs in association with liquefaction and includes the movement of non-liquefied soil materials.

Subsidence
The major cause of ground subsidence is the excessive withdrawal of groundwater. Soils with high silt or clay content are particularly susceptible to subsidence.

Expansive Soils
Expansive soils shrink or swell as the moisture content decreases or increases; the shrinking or swelling can shift, crack, or break structures built on such soils.

Geotechnical investigations, as required by the CBC, evaluate the potential for adverse impacts from lateral spreading, subsidence, and expansive soils and propose appropriate site design measures. If required to comply with PR 2305, all grading, design, and construction work would conform with the recommended design parameters of a geotechnical investigation. Cities and Counties would impose the recommended design parameters as a condition of any required planning approval, and compliance would be ensured through plan checks and development review processes. Compliance with the requirements of the CBC would reduce hazards to less than significant.

VII. e) No Impact. Implementation of PR 2305 would not involve the use of septic tanks or other alternative wastewater disposal systems since each affected warehouse would be expected to have an existing sewer system. Therefore, the implementation of PR 2305 will not adversely affect soils associated with installing a new septic system or alternative wastewater disposal system or modifying an existing sewer. Thus, no impact would occur, and no mitigation measures are necessary.

VII. f) Less Than Significant Impact. Paleontological resources, commonly known as fossils, are the recognizable physical remains or evidence of past life forms found on earth in past geological periods — and can include bones, shells, leaves, tracks, burrows, and impressions. Ground-disturbing activities such as grading, or excavation have the potential to unearth paleontological resources that might underly a site. However, PR 2305 would only result in construction activities where owners or operators of warehouses choose certain WAIRE Menu items for onsite improvements (e.g., solar panels, ZE/ZNE charging infrastructure). These WAIRE Menu items are unlikely to require substantial soil excavation underneath the existing footings and would be located on already disturbed and developed industrial settings; and therefore, no

significant impact would occur. Further, projects implemented as a result of PR 2305 would be subject to project-level review, including review of paleontological impacts under CEQA, as applicable. Therefore, PR 2305 is not expected to directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

Conclusion

Based upon these considerations, significant adverse geology and soils impacts are not expected from the implementation of PR 2305. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
g)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑	☐

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

The term "hazardous material" can be defined in different ways. For purposes of this environmental document, the definition of "hazardous material" is the one outlined in the Health and Safety Code, Section 25501:

Hazardous materials that, because of their quantity, concentration, or physical or chemical characteristics, pose a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the unified program agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials, and the definition is essentially the same as in the Health and Safety Code, Section 25117, and in the California Code of Regulations, Title 22, Section 66261.2:

Hazardous wastes are those that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Hazardous materials can be categorized as hazardous nonradioactive chemical materials, radioactive materials, and biohazardous materials (infectious agents such as microorganisms, bacteria, molds, parasites, viruses, and medical waste).

Exposure of the public or the environment to hazardous materials could occur through but not limited to the following means: improper handling or use of hazardous materials or waste, particularly by untrained personnel; transportation accident; environmentally unsound disposal methods; and/or fire, explosion, or other emergencies. The severity of potential effects varies with the activity conducted, the concentration and type of hazardous material or wastes present, and the proximity of sensitive receptors.

All the activities identified in Table 2-1 would be expected to have impacts to the topic of hazards and hazardous wastes. As such, the following responses to the checklist questions discuss these activities. Both construction and operational impacts are addressed as applicable.

VIII. a), b) & c) Less than Significant. PR 2305 has been developed to reduce local and regional emissions, and to facilitate local and regional emission reductions associated with warehouses and the mobile sources attracted to warehouses. Affected owners and operators of warehouses are expected to comply with the rule by earning WAIRE points through the selection and implementation of WAIRE Menu items such as onsite solar panels or installing charging and refueling ZE and NZE infrastructure. The proposed project does not cause or require owners or operators of warehouses to select WAIRE Menu items that require construction; however, owners or operators of warehouses may choose to comply with PR 2305 by selecting WAIRE Menu items that require minor construction. Any construction activities that occur as a result of PR 2305 are expected to be minor and are not expected to generate additional hazards at the affected warehouses. Operational activities could involve the use and disposal of batteries, associated with ZE trucks, ZE yard trucks, and solar panels. The operational phase could also involve the use and disposal of air filters. Furthermore, the use of ZE or NZE trucks and installation of ZE or NZE refueling stations could involve the use of natural gas or hydrogen fuel. However, these hazardous materials are not expected to create a new significant hazard to the public or environment. The following is a discussion of potential hazards and hazardous materials impacts that could occur during construction and operation as a result of implementing PR 2305.

Construction

Construction activities associated with onsite and near site installations of structures, equipment, and infrastructure could involve the use of hazardous materials. If construction activities occur at affected warehouses, those activities could involve use of hazardous materials including cleansers and degreasers; fluids used in routine maintenance and operation of construction equipment, such as oil and lubricants; and architectural coatings including paints. However, if any hazardous materials are used during construction the use, storage, transportation, and management of such hazardous materials and wastes would be regulated by federal, state, and local laws and would not be in such quantities or stored in such a manner as to pose a significant safety hazard. Further, construction activities would be temporary and are expected to cease upon completion.

For example, all spills or leakage of petroleum products during construction activities are required to be immediately contained, the hazardous material identified, and the material remediated in compliance with applicable state and local regulations for the cleanup and disposal of that contaminant.

For the reasons described above, impacts to the public, the environment, or nearby schools through the routine use and transport of hazardous materials, or reasonably foreseeable upset conditions involving the release of hazardous materials into the environment during construction are expected to be less than significant.

Operation

Implementation of PR 2305 may result in hazards and hazardous materials operational impacts due to: 1) the installation and/or use of ZE charging/refueling infrastructure, such as natural gas or hydrogen fuel, which may require preparation of a hazardous materials business plan if fuels are stored onsite in substantial quantities[14]; 2) acquiring and/or using on-road NZE trucks and the

[14] State of California, California Code, Health and Safety Code - § 25507, January 1, 2019, Section 4.3.4.2, Use of Alternative Fuels, pages 4.3-17 through 4.3-29. http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=25507

associated increase demand for alternative fuels; 3) an increase in the number of battery-powered trucks and yard trucks powered by lithium batteries, which are regulated as a hazardous material; 4) batteries associated with the use of solar panels; and 4) maintenance and replacement of community based air filters/filtration systems.

The March 2017 Final Program EIR for the 2016 Air Quality Management Plan analyzed control measure MOB-03, *Emission Reductions at Warehouse Distribution Centers*, and dismissed impacts associated with the routine transport, use, or disposal of alternative fuels and batteries and impacts associated with the reasonably foreseeable upset and accident conditions involving the release of these hazardous materials into the environment.[15]

The use and transport of alternative fuels and batteries associated with installing and/or using ZE charging/refueling infrastructure, the increased use of NZE vehicles, and the increased use of battery-powered trucks and yard trucks as part of implementing the proposed project is consistent with the analysis in the March 2017 Final Program EIR as shown in Section 4.3.4.2, *Use of Alternative Fuels,* and Section 4.3.4.7, *Transport Hazards*, of this report.

The March 2017 Final Program EIR includes various existing regulations and recommended safety procedures that, when employed, will reduce hazards impacts associated with the use of alternative clean fuels and batteries when compared to conventional fuels (see Table 4.3-5, *Summary of Hazards and Existing Safety Regulations/Procedures Associated with Alternative Fuels*, of the March 2017 Final Program EIR). Consistent with the analysis in the March 2017 Final Program EIR, when users of alternative fuels and batteries comply with existing regulations and recommended safety procedures, hazards impacts from activities as a result of the proposed project are expected to be the same or less than those of conventional fuels.

Additionally, the use of alternative fuels and batteries requires additional knowledge and training of emergency responders and owners/operators of charging/fueling stations. Further, as use of alternative fuels and batteries increases, the use of conventional fuels such as gasoline and diesel will decline. As a result, explosion and flammability hazards associated with conventional fuels will also decline. Furthermore, hazards and hazardous clean-up associated with accidental releases of conventional fuels, especially diesel, are reduced with increasing use of alternative fuels. The March 2017 Final Program EIR also found that hazards associated with the transportation of the alternative fuels would not be a significant risk factor.[16]

Operations would also involve the use of small amounts of hazardous materials, such as cleansers, paints, degreasers, adhesive, and sealers for cleaning and maintenance purposes. Operations would also generate small amounts of hazardous waste from the maintenance and replacement of community based air filters/filtration systems and the maintenance and replacement of batteries for solar panels. The use, storage, transport, and disposal of hazardous materials would be governed by existing regulations of several agencies, including the U.S. EPA, US Department of Transportation, the California Regional Water Quality Control Board, California Division of Occupational Safety and Health, and local or regional environmental health departments and fire departments. Strict adherence to all local and regional emergency response plan requirements would also be required. Furthermore, warehouse owners or operators would be required to provide

[15] South Coast AQMD, Final Program Environmental Impact Report for the 2016 Air Quality Management Plan, March 2017. http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf?sfvrsn=10

[16] State of California, California Code, Health and Safety Code - § 25507, January 1, 2019. http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=25507

workers with training on safe use, handling, and storage of hazardous materials and would maintain equipment and supplies for containing and cleaning up spills of hazardous materials that could be safely contained and cleaned by onsite workers.

For the reasons described above, impacts to the public or environment through the continued routine operations at warehouses are expected to be less than significant.

VIII. d) Less Than Significant Impact. Implementation of PR 2305 might include the installation of ZE charging/refueling infrastructure, and solar panels on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 such as a leaking underground storage tank site, cleanup program sites, hazardous waste sites, and brownfield sites.

Remediation of such sites prior to development would comply with the following federal, State, local laws and regulations:

- **Transportation of Hazardous Waste.** Hazardous materials and hazardous wastes will be transported to and/or from the projects developed pursuant to regulation XXIII in compliance with the U.S. Department of Transportation regulations listed in the Code of Federal Regulations (Title 49, Hazardous Materials Transportation Act); California Department of Transportation standards; and the California Occupational Safety and Health Administration standards.

- **Resource Conservation and Recovery Act.** Hazardous waste generation, transportation, treatment, storage, and disposal will be conducted in compliance with the Subtitle C of the Resource Conservation and Recovery Act (RCRA) (Code of Federal Regulations, Title 40, Part 263), including the management of nonhazardous solid wastes and underground tanks storing petroleum and other hazardous substances. Designated Certified Unified Program Agencies would implement state and federal regulations for the following programs: (1) Hazardous Materials Release Response Plans and Inventory Program, (2) California Accidental Release Prevention Program, (3) Aboveground Petroleum Storage Act Program, and (4) Underground Storage Tank Program (5) Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs (6) Hazardous Materials Management Plan and Hazardous Material Inventory Statement Program.

- **California UST Regulations.** Underground storage tank (UST) repairs and/or removals will be conducted in accordance with the California UST Regulations (Title 23, Chapter 16 of the California Code of Regulations). Any unauthorized release of hazardous materials will require release reporting, initial abatement, and corrective actions that will be completed with oversight from the Regional Water Quality Control Board, Department of Toxic Substances Control, Fire Protection Districts, South Coast AQMD, and/or other regulatory agencies, as necessary.

- **Requirements for Phase I Environmental Site Assessments.** Phase I Environmental Site Assessments are required for land purchasers to qualify for the Innocent Landowner Defense under Comprehensive Environmental Response, Compensation, and Liability Act, to minimize environmental liability under other laws such as RCRA, and as a lender prerequisite to extend a loan for purchase of land.

- **Volatile Organic Compound Emissions.** South Coast AQMD's Rule 1166, *Volatile Organic Compound Emissions from Decontamination of Soil*, establishes requirements to control the emission of VOCs from excavating, grading, handling, and treating soil contaminated from leakage, spillage, or other means of VOCs deposition. Rule 1166 stipulates that any parties planning on excavating, grading, handling, transporting, or treating soils contaminated with VOCs must first apply for and obtain, and operate pursuant to, a mitigation plan prior to commencement of operation. Best available control technology is required during all phases of remediation of soil contaminated with VOCs. Rule 1166 also sets forth testing, record keeping and reporting procedures that must be followed at all times. Non-compliance with Rule 1166 can result in the revocation of the approved mitigation plan, the owner and/or the operator being served with a Notice of Violation for creating a public nuisance, or an order to halt the offending operation until the public nuisance is mitigated.
- **Earth Moving Activities of Soils Contaminated by Toxic Air Contaminants.** South Coast AQMD's Rule 1466, *Control of Particulate Emissions from Soils with Toxic Air Contaminants*, applies to any owner or operator conducting earth-moving activities of soil with applicable toxic air contaminant(s) as defined in paragraph (c)(15) of the rule that have been identified as contaminant(s) of concern at a site. The provisions in Rule 1466 include ambient PM10 monitoring, dust control measures, notification, signage, and recordkeeping requirements. The rule does not apply to earth-moving activities of soil with applicable toxic air contaminant(s) of less than 50 cubic yards.

Installation of equipment such as solar panels would not require ground disturbance underneath the current foundations. However, installation of ZE charging/refueling infrastructure could require grading activities, which may or may not require excavations underneath the current foundations. Excavation is expected to be minimal and would be associated with the installation of conduits, foundations for infrastructure, or underground storage tank. However, the installation of ZE charging/refueling infrastructure is not expected to exacerbate existing hazards since construction activities would be managed to minimize disturbance onsite, in accordance with applicable federal, state, and local rules and regulations. Projects that would require a grading permit prior to installation of ZE charging/fueling infrastructure would be subject to local regulations. Activities resulting from the compliance of the proposed project would also be subject to project-level review, including review of hazard impacts under CEQA, as applicable. Therefore, significant hazards from sites that might be included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 would be less than significant.

VIII. e) No Impact. The State Aeronautics Act of the California Public Utilities Code establishes statewide requirements for the airport land use compatibility planning and requires nearly every county to create an Airport Land Use Commission or an alternative process with a designated responsible agency or agencies. The main goal of the Airport Land Use Commission (ALUC) or designated responsible agency is to protect the public health, safety and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to extensive noise and safety hazards within areas around airports. Compatibility issues are identified and analyzed in Airport Land Use Compatibility Plans for each airport, as applicable, and implementation of these plans promotes compatible development around the airports. ALUCs and/or designated responsible agencies would review land use compatibility issues for any projects

pursuant to PR 2305 that are within airport safety zones including safety, noise, overflight and airspace protection.

Furthermore, Federal Aviation Administration regulation, 14 CFR Part 77 – *Safe, Efficient Use and Preservation of the Navigable Airspace*, provides information regarding the types of projects that may affect navigable airspace. Projects may adversely affect navigable airspace if they involve construction or alteration of structures greater than 200 feet above ground level within a specified distance from the nearest runway or objects within 20,000 feet of an airport or seaplane base with at least one runway more than 3,200 feet in length and the object would exceed a slope of 100:1 horizontally (100 feet horizontally for each one foot vertically from the nearest point of the runway). As such, the installation of ZE charging/refueling infrastructure and solar panels is not expected to affect navigable airspace. Therefore, projects located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would not result in a safety hazard for people residing or working in the project area.

VIII. f) No Impact. Local emergency management plans, evacuation plans, and/or safety elements included in General Plans typically include emergency evacuation route maps that help residents evacuate during emergencies while simultaneously allowing first responders' access into a disaster area without congestion and gridlock. Identified routes consist mostly of interstate freeways and state highways. The maps are intended to support pre-emergency identification of options for ingress and egress. The specific emergency routes employed in the case of an actual emergency are usually designated by evacuation authorities based on emergency conditions and are communicated to residents at the time of the emergency.

Local emergency management plans or hazard mitigation plans address how counties and cities should respond to extraordinary events or disasters (e.g., aviation accidents, civil unrest and disobedience/riot, dam and reservoir failure, disease, earthquake, flood, etc.), from the preparedness phase through recovery. County or city fire and law enforcement departments are responsible for coordinating all emergency management activities and implementing local emergency management or hazard mitigation plans.

PR 2305 would cause no physical changes to roadways or alter traffic patterns on highways and freeways and new offsite structures might include ZE charging/refueling infrastructure near applicable warehouses. Construction activities associated with the proposed project, including staging and stockpiling, would occur within the project boundaries and would not occur on any major arterials or highways that may be used during potential emergency situations. Activities resulting from the compliance of the proposed project would also be required to provide adequate access for emergency vehicles per the California Fire Code. Any short-term temporary impacts on adjacent roadways would be temporary and limited to the construction period. Therefore, PR 2305 is not expected to impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

VIII. g) Less than Significant. WAIRE Menu items, such as high power electric equipment, solar panels, and hydrogen and natural gas infrastructure could increase fire hazard risk. The California Fire Code and CBC set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not

limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations. Further, businesses are required to report increases in the storage or use of flammable and otherwise hazardous materials to local fire departments. Local fire departments ensure that adequate permit conditions are in place to protect against the potential risk of upset. In addition, the National Fire Protection Association has special designations for deflagrations (e.g., explosion prevention) when using materials that may be explosive. Therefore, impacts would be less than significant.

Conclusion

Based upon these considerations, significant adverse hazards and hazardous materials impacts are not expected from implementing the proposed project. Since no significant hazards and hazardous materials impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:				
a)	Violate any water quality standards, waste discharge requirements, or otherwise substantially degrade surface or ground water quality?	☐	☐	☑	☐
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☑	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
	• Result in substantial erosion or siltation on- or off-site?	☐	☐	☑	☐
	• Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☑	☐
	• Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☑	☐
	• Impede or redirect flood flows?	☐	☐	☑	☐
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☑
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☑	☐

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, facilities or new storm water drainage facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☑	☐
g)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☑	☐
h)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑	☐

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion
While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing NZE and ZE charging and fueling infrastructure, and installing solar panels would be expected to have impacts to the topic of hydrology and water quality. As such, the following responses to the checklist questions limit the discussion to these activities. Both construction and operational impacts are discussed as applicable.

IX. a) Less Than Significant Impact. PR 2305 contains no requirements regarding the new usage of water or the new generation of wastewater, though water may be used and wastewater generated through normal existing warehouse operations. Implementation of PR 2305 will take place within South Coast AQMD's jurisdiction where water quality is regulated by the applicable Regional Water Quality Control Board (RWQCB) and its Water Quality Control (Basin Plan). Basin Plans contain water quality standards and identify beneficial uses (wildlife habitat, agricultural supply, fishing, etc.) for receiving waters along with water quality criteria and standards necessary to support these uses consistent with federal and state water quality laws.

The following is a discussion of potential water quality impacts from urban runoff generated during implementation of PR 2305.

Construction
Construction-related runoff pollutants are typically generated from waste and hazardous materials handling or storage areas, outdoor work areas, material storage areas, and general maintenance areas (e.g., vehicle or equipment fueling and maintenance, including washing). Construction activities associated with the installation of ZE and NZE charging and refueling stations and solar panels would be minimal in nature and would not involve long construction schedules or the extensive use of hazardous materials and construction equipment.

Furthermore, construction-related activities that are primarily responsible for sediment releases are related to exposing previously stabilized soils to potential mobilization by rainfall/runoff and wind. Such activities may include earthwork for the installation of conduits and foundations. Grading may also be necessary for the installation of solar panels, ZE and NZE charging and refueling stations, including storage tanks for hydrogen fuel and natural gas, which typically would be installed above ground.

Construction-related activities would generate pollutants that could adversely affect the water quality of downstream receiving waters if appropriate and effective stormwater and non-stormwater management measures are not used to keep pollutants out of and remove pollutants from urban runoff.

Construction projects greater than 1 acre would be subject to the NPDES permitting regulations. Projects develop and implement a SWPPP estimating sediment risk from construction activities to receiving waters and specifying BMPs that would be implemented as a part of the project to minimize pollution of stormwater. Adherence to the BMPs in the SWPPP would reduce, prevent, minimize, and/or treat pollutants and prevent degradation of downstream receiving waters. BMPs identified in the SWPPP would reduce or avoid contamination of stormwater with sediment and other pollutants such as trash and debris; oil, grease, fuels, and other toxic chemicals; paint, concrete, asphalt, bituminous materials, etc.; and nutrients. Therefore, impacts to water quality during construction as a result of implementing PR 2305 would be less than significant.

Operation

Operational-related activities (e.g., runoff from the charging and refueling areas and solar panels) would generate pollutants that could adversely affect the water quality of downstream receiving waters if effective measures are not used to keep pollutants out of and remove pollutants from urban runoff. Operational activities resulting from PR 2305 are required to comply with requirements included in local municipal codes or standards and guidelines established by local stormwater management programs. Additionally, activities that result from compliance with the proposed project would be subject to project-level review, including review of impacts to water quality under CEQA, as applicable.

Based on the preceding, no significant water quality and waste-discharge impacts from operation activities would occur and impacts would be less than significant.

IX. b) Less than Significant Impact. Under PR 2305, warehouse operators and/or warehouse and fleet operators might replace trucks with ZE and NZE trucks. The proposed project might also include installing ZE charging/fueling infrastructure, solar panels, and ZE charging/refueling infrastructure near existing warehouses. The proposed replacement and/or installation of vehicles, equipment, and infrastructure require a minimal amount of water supply. Implementation of PR 2305 does not include agriculture or residential land uses which are considered to be land uses with higher water demand requirements. Furthermore, activities that result from compliance with the proposed project would be subject to project-level review, including review of impacts to groundwater supply under CEQA, as applicable; thus impacts would be less than significant.

IX. c) Less Than Significant Impact. PR 2305 would require owners or operators of affected warehouse to select compliance options from the WAIRE Menu; some of which may require minor construction activities. Erosion and siltation impacts potentially resulting from alteration of the drainage pattern due to compliance with PR 2305 would, for the most part, occur during construction activities associated with implementation of WAIRE Menu items such as onsite infrastructure improvements, which could include site preparation and grading activities. Environmental factors that affect erosion include topographic, soil, wind, and rainfall characteristics. Siltation is most often caused by soil erosion or sediment spill. The following is a discussion of the potential erosion and siltation impacts that could occur as a result of implementing PR 2305.

Construction

Construction to complete activities that result from compliance with the proposed project may require some minor earthwork to prepare affected areas at an affected warehouse. Construction activities; however, would not be expected to permanently create unpaved areas that would be vulnerable to surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or offsite. In addition, PR 2305 would not create new or contribute to existing runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff, because PR 2305 does not contain any requirements that would change existing drainage patterns or the procedures for how surface runoff is handled.

Further, as discussed above in section IX.a, construction contractors would be required to prepare and implement an SWPPP pursuant to the CGP during grading and construction, as applicable. The SWPPP would specify erosion- and sediment-control BMPs that the project construction contractor would implement prior to and during grading and construction to minimize erosion and

siltation impacts on- and offsite at affected warehouses. Erosion control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap or filter sediment once it has been mobilized. Adherence to the BMPs in the SWPPP would reduce, prevent, or minimize soil erosion from grading and construction activities. These construction-phase BMPs would also ensure effective control of not only sediment discharge, but also of pollutants associated with sediments (e.g., nutrients, heavy metals, and certain pesticides).

Therefore, construction activities would not result in substantial erosion or siltation on- or offsite. Construction-related impacts would be less than significant and no mitigation measures are necessary.

Operation

As discussed above in section IX.a all activities undertaken as a result of implementing PR 2305 that have the potential to discharge urban runoff must comply with NPDES permitting regulations and utilize BMPs as applicable to reduce the discharge of pollutants to receiving waters. Activities resulting from compliance with PR 2305 are required to comply with local municipal codes, standards, and guidelines established by the applicable stormwater management programs and will also be subject to project-level review. Furthermore, offsite projects that may alter the course of a stream or river would be subject to project-level review, including review of impacts to hydrology and water quality under CEQA, as applicable. Therefore, operation of PR 2305 is not expected to result in substantial erosion or siltation on- or offsite. Operation-related impacts would be less than significant and no mitigation measures are necessary.

Activities that occur onsite at applicable warehouses as a result of implementing PR 2305 are unlikely to be located in a flood zone as indicated on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) since affected warehouse are already developed. The FRIMs provide flood information and identify flood hazard zones. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a 1-in-100 chance of occurring in any given year. Furthermore, counties and cities include flood protection measures and policies in local General Plans, Code of Ordinances and municipal codes. Activities undertaken to comply with PR 2305 would also be subject to project-level review, including review of impacts due to flooding under CEQA, as applicable. Lastly, any flood event that occurs would be part of the existing setting and therefore not an impact from compliance with PR 2305.

Therefore, impacts to the existing drainage pattern of an affected warehouse site or the area beyond what currently exists at an existing warehouse would be less than significant.

IX. d) No Impact. As noted in section IX d. above, impacts due to flood zones indicated on FEMA FIRM maps would be less than significant because affected warehouses are already developed, and PR 2305 does not require new warehouse development in undeveloped areas. In addition to flood zones, activities implemented to comply with PR 2305 could be located in dam inundation zones; however because those activities undertaken to comply with PR 2305 will be occurring on existing warehouse sites any inundation as the result of a dam failure would be part of the existing setting that is present for reasons unrelated to PR 2305. Further, dams in California are monitored and inspected annually by the California Division of Safety of Dams. Dam owners are required to maintain Emergency Action Plans (EAPs) that include procedures for damage assessment and emergency warnings. An EAP identifies potential emergency conditions at a dam and specifies preplanned actions to help minimize property damage and loss of life should those

conditions occur. EAPs contain procedures and information that instruct dam owners to issue early warning and notification messages to downstream emergency management authorities.

A seiche is an oscillating surface wave in a restricted or enclosed body of water, generated by ground motion, usually during an earthquake. Seiches are of concern for water storage facilities, because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. Activities undertaken to comply with PR 2305 may be at risk of inundation due to seiches however any flood event of this nature would be part of the existing setting that is present for reasons unrelated to PR 2305.

Furthermore, tsunamis are a type of earthquake-induced flooding produced by large-scale sudden disturbances of the sea floor. Tsunami waves interact with the shallow sea floor when approaching a landmass, resulting in an increase in wave height and a destructive wave surge into low-lying coastal areas. Activities undertaken to comply with PR 2305 may be at risk of inundation due to Tsunamis if they occur at existing warehouse locations which are at risk for Tsunamis. However, any Tsunami hazard would be part of the existing setting that is present and unrelated to PR 2305.

Activities undertaken to comply with PR 2305 would be subject to project-level review, including the review of impacts due to inundation under CEQA, as applicable. Furthermore, the storage of hazardous materials onsite would be governed by existing regulations of several agencies, including the U.S. EPA, US Department of Transportation, the California RWQCB, California Division of Occupational Safety and Health, and local or regional environmental health departments and fire departments. Strict adherence to all local and regional emergency response plan requirements would also be required. In addition, implementing PR 2305 would not be expected to violate any regulatory requirements in regard to storage of hazardous materials onsite. Based on the preceding, activities that result from compliance with the proposed project would not release pollutants as the result of floods, tsunami, or seiche. Therefore, no impact would occur and no mitigation measures are necessary.

IX. e) Less Than Significant Impact. Water quality for proposed projects within South Coast AQMD's jurisdiction are regulated by the applicable RWQCB and its Water Quality Control Basin Plan. As described in section IX a. above, activities undertaken to comply with PR 2305 would not violate any water quality standards and will therefore not obstruct the implementation of the Basin Plan.

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). The SGMA sets a framework for sustainable, groundwater management. SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California. Activities undertaken to comply with PR 2305 may be located in areas that are governed under a GSP. As discussed in section IX b. above, activities that result from compliance with the proposed project would not violate any groundwater quality standards and will not decrease groundwater supplies or interfere substantially with groundwater recharge. Therefore, PR 2305 would not conflict with or obstruct the implementation of a groundwater management plan and impacts would be less than significant.

IX. f), g) & h) Less Than Significant Impact. As indicated in section IX.b, replacement of vehicles and equipment, and installation of ZE charging/refueling infrastructure require a minimal amount of water. Activities that result from compliance with the proposed project do not include agriculture or residential land uses which are considered to be land uses with higher water demand requirements. Furthermore, activities pursuant to the implementation of the proposed project would not generate wastewater. Local county and city ordinances that apply to water conservation and efficiency would also be implemented and activities that result from compliance with the proposed project would be subject to project-level review, including review of impacts to water facilities under CEQA, as applicable. Therefore, impacts from any relocation or construction of new or expanded water and wastewater treatment facilities would be less than significant. Furthermore, sufficient water supplies would be available to serve activities pursuant to PR 2305 and would not result in a determination by the wastewater treatment provider that it has adequate capacity to serve the projected demand in addition to the provider's existing commitments.

Conclusion

Based upon these considerations, significant adverse hydrology and water quality impacts are not expected from implementing the proposed project. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☑
b) Cause an environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing and using NZE and ZE charging and fueling infrastructure would be expected to have impacts to the topic of land use and planning. As such, the following responses to the checklist questions limit the discussion to these activities.

X. a) No Impact. PR 2305 would not require or induce new warehouse development and the physical effects that will result from PR 2305 will occur at existing affected warehouses located in industrial and commercial areas and would not be expected to go beyond existing site boundaries. However, PR 2305 could result in installation of ZE charging/refueling infrastructure near applicable warehouses. Offsite improvements would be located in close proximity to existing highways. Therefore, PR 2305 would not result in activities that would physically divide an established community and there would be no impacts.

X. b) No Impact. PR 2305 would not require or induce new warehouse development and the physical effects that will result from PR 2305 will occur at existing affected warehouses located in industrial and commercial areas and would not be expected to go beyond existing site boundaries. Activities resulting from compliance with PR 2305 that would occur near existing warehouses would be governed by adopted planning and regulatory documents such as General Plans, Specific Plans, and zoning codes. The development and design standards contained in these documents constitute the zoning regulations that govern development of project sites. Activities that result from compliance with the proposed project would be subject to project-level review that would assess consistency with these adopted land use regulations, including review of impacts to land use and planning under CEQA, as applicable. Further, PR 2305 does not alter any land use or planning requirements. Therefore, the proposed project would not cause an environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Conclusion

Based upon these considerations, significant adverse land use and planning impacts are not expected from implementing the proposed project. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI.	**MINERAL RESOURCES.** Would the project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing and using NZE and ZE charging and fueling infrastructure would be expected to have impacts to the topic of mineral resources. As such, the following responses to the checklist questions limit the discussion to these activities.

XI. a) & b) No Impact. ZE and NZE trucks, equipment, and infrastructure necessary to achieve the WPCO would be implemented at existing warehouses Furthermore, ZE charging/refueling infrastructure may be installed near existing warehouses. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. PR 2305 would not require these mineral resources and would have no effects on the use of important minerals, such as those described above. Therefore, there are no activities associated with PR 2305 compliance that would result in the loss of availability of known mineral resources that have value to the region and the residents of the state, or of a locally important mineral resource site shown on a local general plan, specific plan or other land use plan.

Conclusion

Based upon these considerations, significant adverse mineral resource impacts are not expected from implementing the proposed project. Since no significant mineral resource impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

Significance Criteria

Noise impact will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing NZE and ZE charging and fueling infrastructure, and installing solar panels would be expected to have impacts to the topic of noise. As such, the following responses to the checklist questions limit the discussion to these activities. Both construction and operational impacts are discussed as applicable.

XII. a) Less than Significant. The warehouses that may be affected by PR 2305 are typically located in urbanized industrial and commercial areas. To limit population exposure to physically and/or psychologically damaging, as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise.

PR 2305 would result in installation of ZE charging/refueling infrastructure near applicable warehouses. Facilities might also install onsite ZE charging/fueling infrastructure and solar panels. Construction of new equipment could result in additional ambient noise levels. Construction activities could require some diesel powered construction equipment (e.g., concrete saws, delivery trucks, trenchers, backhoes, cranes, concrete mixers etc.) however this equipment is typically no larger or noisier than the diesel powered trucks already operating at a warehouse. The construction equipment noise sources identified in Table 2-3 represent equipment that are anticipated to be used for the installation of ZE charging/refueling infrastructure and solar panels.

Table 2-3
Noise Levels from Anticipated Construction Noise Sources

Equipment	Typical Noise Levels in Decibels (dBA)
Backhoe	80
Concrete Mixers	85
Concrete Pump	82
Crane, Derrick	88
Crane, Mobile	83
Loader	85
Saw	76
Truck	88
Shovel	89
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-06, May 2006. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf Levels are in dBA at 50 feet from the source.	

Per Table 2-3, construction noise can be assumed to be an average of 84 dBA at 50 feet from the center of construction activity and using an estimated six dBA reduction for every doubling of distance, the noise levels are expected to decrease to about 60 dBA at about 800 feet from construction activities. Since warehouse facilities are typically located in industrial areas, which have a higher background noise level when compared to other areas, such as a residential neighborhood, the noise generated during construction will likely be indistinguishable from the background noise levels at the property line. Therefore, construction noise impacts on sensitive receptors are expected to be less than significant.

Additionally, noise from the operation of ZE trucks or yard trucks is quieter than the equivalent diesel powered vehicles that are typically used. Any new equipment would be subject to project-level review, including review of noise levels based on the jurisdiction's noise standard, as applicable. Therefore, PR 2305 would not generate noise levels in in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

XII. b) Less than Significant. Operation of the proposed project would not generate substantial levels of vibration because there are no notable sources of vibrational energy associated with the proposed project. Therefore, operation would not result in significant groundborne vibration impacts. Impacts would be less than significant and no mitigation measures are necessary.

Construction activities generate varying degrees of ground vibration, depending on the construction procedures, construction equipment used, and proximity to vibration-sensitive uses. The generation of vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight damage at the highest levels. Vibration associated with ground-borne sources is generally not a common environmental problem. However, construction activities such as blasting, pile driving, and heavy earthmoving equipment are potential sources of vibration during construction activities. In general, demolition of structures during construction generates the highest levels of vibration. The proposed project would not include construction activities that would generate high levels of vibration, rather construction activities would be minimal, short term, and one time in nature and would cease upon completion of the construction phase. Furthermore, activities that result from compliance with the proposed project would be subject to project-level review, including review of noise impacts under CEQA, as applicable.

XII. c) No Impact. The proposed project does not include any activities that might expose people residing or working in the project area to excessive aircraft noise. All activities associated with the implementation of the proposed project will be conducted at existing warehouses and there will be no additional exposure beyond existing conditions. Therefore, there will be no impact.

Conclusion
Based upon these considerations, no significant noise impacts are expected from implementing the proposed project and further analysis would not be included in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII.	**POPULATION AND HOUSING.** Would the project:				
a)	Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☑
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project none of these activities would have an impact to the topic of population and housing.

XIII. a) & b) No Impact. The proposed project is not anticipated to generate any significant effects, either direct or indirect, on the population or population distribution of people living in the South Coast AQMD's jurisdiction as no additional workers are anticipated to be required to comply with the proposed project. Population growth with South Coast AQMD's jurisdiction is anticipated to grow regardless of the implementation of PR 2305.

Furthermore, compliance with PR 2305 does not include the removal of housing or necessitate the construction of replacement housing elsewhere.

Conclusion

Based upon these considerations, significant adverse population and housing impacts are not expected from implementing the proposed project. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire protection?	☐	☐	☑	☐
b) Police protection?	☐	☐	☐	☑
c) Schools?	☐	☐	☐	☑
d) Parks?	☐	☐	☐	☑
e) Other public facilities?	☐	☐	☐	☑

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing NZE and ZE charging and fueling infrastructure, and installing solar panels would be expected to have impacts to the topic of public services. As such, the following responses to the checklist questions limit the discussion to these activities. Both construction and operational impacts are discussed as applicable.

XIV. a) Less Than Significant Impact. Fire protection and emergency medical services would be provided to affected warehouses subject to PR 2305 by local county and city fire departments. The implementation of the proposed project would not result in an increase in calls for fire protection, and emergency medical service. In addition, activities that result from compliance with the proposed project would be subject to project-level review, including review of fire protection impacts under CEQA, as applicable.

Furthermore, all activities undertaken as a result of PR 2305 would be required to comply with fire-related safety features in accordance with the applicable provisions of the adopted California

Fire Code (CFC) and any county or city ordinances, and standard regarding fire prevention and suppression measures related to water improvement plans, fire hydrants, fire access, and water availability.

Based on the preceding, activities pursuant to PR 2305 would not adversely affect the ability of local fire protection to provide adequate service and impacts would be less than significant and no mitigation measures are necessary.

XIV. b), c) d) & e) No Impact. Activities undertaken to comply with PR 2305 would not result in an increase in calls for police protection. Activities would occur at existing warehouse sites that have established security measures onsite and are subject to compliance with local law enforcement authorities. During plan check and the development review process, the project applicants would be required to comply with the existing regulations in effect at the time building permits are issued, including payment of the established development impact fee as applicable.

The need for new or the expansion of existing schools, parks, or library services and facilities is tied to population growth. As indicated under item XIII, *Population and Housing*, implementing PR 2305 would not induce population growth either directly or indirectly. Therefore, with no increase in local population, there would be no additional demand for new or expanded schools, parks, and libraries and no significant impacts are expected.

Conclusion

Based upon these considerations, significant adverse public services impacts are not expected from implementing the proposed project. Since no significant public services impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV.	**RECREATION.**				
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project none of these activities would have an impact to the topic of recreation.

XV. a) & b) No Impact. Demand for parks and recreational facilities in an area are usually determined by the area's population. The proposed project does not include the development of new homes, which lead to an increase in population and thereby, the need for additional park and recreation facilities. Therefore, the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities, nor would it require construction of new or expanded parks or recreational facilities. No impact to park and recreational facilities would occur and no mitigation measures are necessary.

Furthermore, the implementation of the proposed project does not include the development of recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Conclusion

Based upon these considerations, significant adverse recreation impacts are not expected from implementing the proposed project. Since no significant recreation impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID AND HAZARDOUS WASTE. Would the project:				
a) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☑	☐
b) Comply with federal, state, and local management and reduction statutes and regulations related to solid and hazardous waste?	☐	☐	☐	☑

Significance Criteria

The proposed project impacts on solid and hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only the use of on-road ZE trucks, using ZE yard trucks, installing solar panels, and installing high-efficiency filters or filter systems would be expected to have impacts to the topic of solid and hazardous waste. As such, the following responses to the checklist questions limit the discussion to these activities. Both construction and operational impacts are discussed as applicable.

XVI. a) Less Than Significant Impact.

Construction

Installing ZE charging/fueling infrastructure, and the installation of solar panels would result in minor construction activities that may result in the generation of some construction waste that may need to be disposed in a landfill. PR 2305 does not contain any requirements that would cause existing practices for disposing of solid and hazardous waste to change. For this reason, warehouses that currently comply with all applicable local, state, or federal waste disposal regulations would not be expected to change their current practices due to implementation of PR 2305. If a warehouse owner or operator chooses a WAIRE Menu item that requires construction such as onsite fueling or charging infrastructure there is a possibility that small amounts of waste will be generated from replacement of parts during routine servicing and maintenance of the onsite improvements. The amount of waste generated would be negligible when considering the existing regular waste generation from ordinary warehouse operations. Further, all construction activities associated with compliance with PR 2305 should abide by the requirements of CALGreen Section 5.408, *Construction Waste Reduction, Disposal and Recycling*, as applicable. As currently

codified, these regulatory sections require diversion of 65 percent of nonhazardous construction and demolition waste through recycling, reuse, and diversion programs.

Operation

The March 2017 Final Program EIR for the 2016 Air Quality Management Plan analyzed control measure MOB-03, *Emission Reductions at Warehouse Distribution Centers*, and dismissed impacts associated with spent batteries from electric vehicles based on the following discussion.

As interest in the use of electric vehicles has increased over the years, battery technologies have been developing and improving. Most battery technologies employ materials that are recyclable, since California laws have created incentives and requirements for recycling batteries as follows:

- California and federal law require the recycling of lead-acid batteries (Health and Safety Code §25215). Spent lead-acid batteries being reclaimed are regulated under 22 CCR §66266.80 and 66266.81, and 40 CFR part 266, Subpart G.
- The federal Battery Act promulgated in 1996 requires that each regulated battery be labeled with a recycling symbol. Nickle-Cadmium (NiCad) batteries must be labeled with the words "NiCad" and the phrase "Battery must be recycled or disposed of properly." Lead-acid batteries must be labeled with the words "Lead," "Return," and "Recycle."
- The Health and Safety Code does not allow the disposal of lead-acid batteries at a solid waste facility or on or in any land, surface waters, water courses, or marine waters. Legal disposal methods for used lead-acid batteries are to recycle/reuse the battery or to dispose of it at a hazardous waste disposal facility. A lead-acid battery dealer is required to accept spent batteries when a new one is purchased.
- The Universal Waste Rule requires that spent batteries exhibiting hazardous waste characteristics and are not recycled need to be managed as hazardous waste. This includes lead-acid and NiCad batteries.

Existing battery recovery and recycling programs have limited the disposal of batteries in landfills. For example, the recycling of lead-acid and NiCad batteries is already a well-established activity. Further penetration of NZE and ZE emission mobile sources is expected to result in a reduction in the use of lead-acid and NiCad batteries. Implementation of the proposed project would be expected to result in an increased use of electric vehicles which use nickel-metal hydride (NiMH) and lithium ion (Li-ion) batteries, instead of lead-acid and NiCad batteries. NiMH and Li-ion batteries generally contain materials that have high economic value and, therefore, are recyclable.

Improper disposal of NiMH batteries poses less environmental hazard because of the absence of lead and cadmium, which is considered to be toxic. Most industrial nickel is recycled, due to the relatively easy retrieval of the magnetic element from scrap using electromagnets, and due to its high value. Additionally, Li-ion batteries are between 70 and 100 percent recyclable, depending on the particular chemistry of the batteries. There are a number of different types of Li-ion batteries in use, and more are being developed. The components of Li-ion batteries that cannot be recycled are mostly consumed as fuel in the furnaces that are used to melt down the metals, which include cobalt, copper, iron, nickel, manganese, and lithium. Because Li-ion batteries have a potential for after-automotive use, destructive recycling can be postponed for years even after batteries can no longer hold and discharge sufficient electricity to power a motor. Furthermore, electric batteries

tend to last substantially longer than lead-acid batteries in conventional vehicles and an increase in the use of electric vehicles would result in a decrease in the amount of spent lead-acid batteries that require recycling. [17]

Therefore, for the reasons described above and consistent with the analysis in the March 2017 Final Program EIR, impacts from the generation of hazardous solid waste associated with the use of ZE trucks, ZE yard trucks, and solar panels that occur as a result of compliance with the proposed project would be less than significant.

Furthermore, during the operational phase, the requirements of the local Integrated Waste Management Plan (IWMP) and any local solid waste ordinances would be implemented to ensure that all activities comply with all applicable state and federal laws. IWMPs ensure that cities reach the diversion and other goals mandated by the California Integrated Waste Management Act of 1989 (AB 939). AB 939 requires all California cities to divert 50 percent of their waste stream from landfills by the year 2000. Additionally, activities that result from compliance with PR 2305 would be subject to project-level review, including review of impacts from solid waste under CEQA, as applicable.

Based on the preceding, impacts on landfill capacity would be less than significant and no mitigation measures are necessary.

XVI. b) No Impact. The following federal, state, and local laws and regulations govern solid waste disposal:

- U.S. EPA's Resource Conservation and Recovery Act of 1976 which contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria.
- AB 341 (Chapter 476, Statutes of 2011) which increases the statewide waste diversion goal to 75 percent by 2020.
- AB 939 (Integrated Solid Waste Management Act of 1989; Public Resources Code 40050 et seq.) which requires every California city and county to divert 50 percent of its waste from landfills by the year 2000 by such means as recycling, source reduction, and composting. In addition, AB 939 requires each county to prepare a countywide siting element specifying areas for transformation or disposal sites to provide capacity for solid waste generated in the county that cannot be reduced or recycled for a 15-year period.
- AB 1327 (California Solid Waste Reuse and Recycling Access Act of 1991) which requires local agencies to adopt ordinances mandating the use of recyclable materials in development projects.

Any project-related construction and operation resulting from compliance with PR 2305 would be implemented in accordance with all applicable federal, state, and local laws and regulations governing solid waste disposal. Therefore, no impact would occur, and no mitigation measures are necessary.

[17] State of California, California Code, Health and Safety Code - § 25507, January 1, 2019, Section 4.6.4.1, Spent Batteries from Electric Vehicles, pages 4.6-8 through 4.6-12 and Section 4.4.4.2.4, Electric Vehicles, pages 4.4-13 through 4.4-17 http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=25507

Conclusion

Based upon these considerations, significant adverse solid and hazardous waste impacts are not expected from implementing the proposed project. Since no significant solid and hazardous waste impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION.					
	Would the project:				
a)	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☑	☐	☐	☐
b)	Conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b)?	☑	☐	☐	☐
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑
d)	Result in inadequate emergency access?	☐	☐	☐	☑

Significance Criteria

Impacts on transportation and traffic will be considered significant if any of the following criteria apply:

- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation or contributes to changes in overall vehicle miles traveled.
- There is an increase in vehicle miles traveled that is substantial in relation to the existing travel activity.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees.
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day.
- Increase customer traffic by more than 700 visits per day.

Discussion

While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only the use of on-road NZE and ZE trucks, installing and/or using ZE charging/fueling infrastructure, installing solar panels, and installing high-efficiency filters or filter systems would be expected to have impacts to the topic of transportation. As such, the following responses to the checklist questions limit the discussion to these activities. Both construction and operational impacts are discussed as applicable.

XVII. a) & b) Potentially Significant Impact. Construction trips and vehicle miles traveled are associated with vendor trucks that provide deliveries of equipment and building materials, as well

as worker vehicles as they commute to construction sites. Construction trips could be potentially significant and will be discussed further in the EA.

Furthermore, it is anticipated that implementation of PR 2305 could change regional truck travel patterns within the South Coast AQMD's jurisdiction during the operational phase but would not result in an increase in passenger vehicle or truck trips for individual warehouses. This change in travel patterns might conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities and impacts would be potentially significant. Further analysis is required to assess the significance of this impact and will be included in the Draft EA.

XVII. c) No Impact. PR 2305 does not involve or require the construction of new roadways, alter existing roadways, or introduce incompatible uses to existing roadways. Thus, there will be no change to current public roadway designs that could increase traffic hazards. Further, PR 2305 is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the facilities. Therefore, no impact resulting from hazards due to design features or incompatible uses would occur and no mitigation measures are necessary.

XVII. d) No Impact. Since PR 2305 includes the installation of ZE charging/refueling infrastructure and solar panels. No changes are expected to emergency access at or in the vicinity of the affected facilities. PR 2305 does not contain any requirements specific to emergency access points and each facility would be expected to continue to maintain their existing emergency access. Based on the preceding, no impact to emergency access would occur and no mitigation measures are necessary.

Conclusion
Based upon these considerations, significant construction related transportation impacts may occur from the installation of ZE charging/refueling infrastructure, solar panels, or community benefits projects (e.g., new HVAC systems to filter particulates). Significant operational impacts may also arise from using on-road NZE and ZE trucks and ZE charging/refueling stations. These impacts would be further analyzed in the Draft EA.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☑
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☑
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☑
e) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildfires?	☐	☐	☑	☐

Significance Criteria

A project's ability to contribute to a wildfire will be considered significant if the project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, and any of the following conditions are met:

- The project would substantially impair an adopted emergency response plan or emergency evacuation plan.
- The project may exacerbate wildfire risks by exposing the project's occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.
- The project may exacerbate wildfire risks or may result in temporary or ongoing impacts to the environment because the installation or maintenance of associated infrastructure

(such as roads, fuel breaks, emergency water sources, power lines, or other utilities) are required.
- The project would expose people or structures to significant risks such as downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.
- The project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildfires.

Discussion
While the activities identified in Table 2-1 would be expected as a result of implementing the proposed project, only installing and/or using ZE charging/fueling infrastructure, and installing solar panels would be expected to have impacts to the topic of wildfire. As such, the following responses to the checklist questions limit the discussion to these activities. Both construction and operational impacts are discussed as applicable.

XVIII. a) No Impact. Refer to section VIII.f, activities that result from compliance with the proposed project would not block or otherwise interfere with the use of evacuation routes nor would they interfere with operations of emergency response agencies or with coordination and cooperation between such agencies.

XVIII. b) Less Than Significant Impact. Wildland fire protection in California is the responsibility of either the local government, state, or the federal government. State Responsibility Areas (SRA) are the areas in the state where the State of California has the primary financial responsibility for the prevention and suppression of wildland fires.[18] Local responsibility areas (LRA) include incorporated cities, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and by California Department of Forestry and Fire Protection (CAL FIRE) under contract to local government. CAL FIRE uses an extension of the SRA Fire Hazard Severity Zone model as the basis for evaluating fire hazard in LRAs. The local responsibility area hazard rating reflects flame and ember intrusion from adjacent wildlands and from flammable vegetation in the urban area. Fire Hazard Severity Zones (FHSZ) are identified by Moderate, High and Very High in an SRA, and Very High in an LRA. Activities resulting from compliance with PR 2305 may occur on existing warehouses located in or near state responsibility areas or lands classified as very high fire hazard severity zones.

All structures pursuant to the implementation of the proposed project that would be located in fire hazard severity zones are required to be designed, built, and operated in accordance with state regulations specifying building materials and structural designs for structures in such zones, including CBC Chapter 7A and California Fire Code (CFC) Chapter 49; and regulatory requirements for defensible space including California Public Resources Code Sections 4291 et seq. Furthermore, structures pursuant to the implementation of the proposed project located in SRA areas will implement the Wildfire SRA Fire Safe Regulations' basic wildland fire protection standards. Electric utilities are required to abide by the requirements of the California Public Utilities Commission (CPUC) Fire Safety Regulations as they relate to utility poles and wires, and vegetation management.

[18] California Department of Forestry and Fire Prevention's Fire and Resource Assessment Program. 2019. Wildfire Hazard Real Estate Disclosure. https://frap.fire.ca.gov/frap-projects/wildfirehazard-real-estate-disclosure-old/.

Additional measures are in place to sidestep the impacts of pollutant concentrations from wildfire ash. Recognition of the growing threat that wildfire smoke poses to public health and safety has resulted in a response led by the US Forest Service and enhanced through partnership with many other agencies, such as the National Park Service. The Wildland Fire Air Quality Response Program (WFAQRP) was created to directly assess, communicate, and address risks posed by wildfire smoke to the public as well as fire personnel. The program depends on four primary components: specially trained personnel called Air Resource Advisors (ARAs), air quality monitoring, smoke concentration and dispersion modeling, and coordination and cooperation with agency partners. ARAs are technical specialists that are trained to work on smoke issues from wildland fire. They are deployed nationwide during large smoke events. ARAs are dispatched to an incident to assist with understanding and predicting smoke impacts on the public and fire personnel. They analyze, summarize, and communicate these impacts to incident teams, air quality regulators, and the public.[19] South Coast AQMD also issues air quality alerts, advisories, and forecasts by email through AirAlerts.org. South Coast AQMD also maintains an interactive online map to view current air quality conditions in the region.[20] Furthermore, activities that result from compliance with the proposed project would be subject to project-level review, including review of wildfire impacts under CEQA, as applicable. Therefore, there would be no impacts from pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

XVIII. c) No Impact. PR 2305 would not add new structures that might need to be supported by expanded infrastructure and associated maintenance, including new roads, fuel breaks, emergency water sources, power lines and other utilities. However, as indicated in section XVIII b. above, structures pursuant to the implementation of the proposed project that are developed in FHSZs are required to comply with regulations governing development in such zones, including CBC Chapter 7A, CFC Chapter 49, and California Public Resources Code Sections 4291 et seq. Any new powerlines would be required to comply with fire safety regulations pertaining to electric utilities including California Code of Regulations Title 14 Sections 1250 et seq.; and CPUC fire safety regulations. Furthermore, activities that result from compliance with the proposed project would be subject to project-level review, including review of wildfire impacts under CEQA, as applicable. Therefore, there would be no impacts.

XVIII. d) No Impact. Catastrophic wildfire can create favorable conditions for other hazards, such as flooding and landslides during the rainy season. However, the installation of ZE charging/refueling infrastructure and solar panels at applicable existing warehouses would have a nominal footprint and would not expose people or structure to post-fire hazards such as flooding, landslides, slope instability, or drainage changes. Installation of ZE charging/refueling infrastructure near warehouses would also have a nominal footprint and would not result in any post-fire impacts.

XVIII. e) Less Than Significant Impact. As discussed in section XVIII b above, any new developed or redevelopment in FHSZs are required to comply with regulations governing development in such zones, including CBC Chapter 7A, CFC Chapter 49, and California Public Resources Code Sections 4291 et seq. Established regulations and policies, will reduce wildfire hazards to less than significant.

[19] US Forest Service accessed August 20, 2018, Wildland Fire Air Quality Response Program. United States Department of Agriculture, https://www.wildlandfiresmoke.net/

[20] South Coast Air Quality Management District accessed August 20, 2018, Wildfire Smoke & Ash Health & Safety Tips, https://www.aqmd.gov/wildfire-health-info-smoke-tips.

Conclusion

Based upon these considerations, significant adverse wildfire impacts are not expected from implementing the proposed project. Since no significant wildfire impacts were identified, no mitigation measures are necessary or required and therefore will not be further discussed in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIX.	**MANDATORY FINDINGS OF SIGNIFICANCE.**				
a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☑	☐
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☑	☐	☐	☐
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☑	☐	☐	☐

Discussion

XIX. a) Less than Significant Impact. Activities resulting from compliance with the proposed project could occur at or near existing warehouses. Such project sites would not typically include appropriate habitat for fish or wildlife species or rare, endangered species of plant or animal. Cultural resources are also limited at such sites. Furthermore, individual development projects would be subject to project-level review under CEQA, as applicable. Thus, impacts to biological and cultural resources would be less than significant.

XIX. b) Potentially Significant Impact. Implementation of PR 2305 could have cumulative considerable impacts associated with air quality and greenhouse gases, energy, and transportation. These impacts could be potentially significant and will be studied further in the Draft EA.

XIX. c) Potentially Significant Impact. It is possible that new warehouses may be developed outside of the South Coast Air Basin to avoid implementing compliance with PR 2305. This could result in longer truck trips within the South Coast AQMD's jurisdiction which could result in additional operational emissions. These additional emissions might cause potential health impacts to sensitive receptors and will be addressed in further detail in the Draft EA.

Conclusion

As previously discussed in environmental topics I through XIX, the proposed project has impacts with the potential to cause significant adverse environmental effects. These impacts will be discussed in further detail in the Draft EA.

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APPENDICES

Appendix A: Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program

Appendix B: Proposed Rule 316 – Fees for Regulation XXIII

APPENDIX A

Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions And Investments To Reduce Emissions (WAIRE) Program

PROPOSED RULE 2305 WAREHOUSE INDIRECT SOURCE RULE – WAREHOUSE ACTIONS AND INVESTMENTS TO REDUCE EMISSIONS (WAIRE) PROGRAM

(a) Purpose

The purpose of this rule is to reduce local and regional emissions of nitrogen oxides and particulate matter, and to facilitate local and regional emission reductions associated with warehouses and the mobile sources attracted to warehouses in order to assist in meeting state and federal air quality standards for ozone and fine particulate matter.

(b) Applicability

This rule applies to owners and operators of warehouses located in the South Coast Air Quality Management District (South Coast AQMD) jurisdiction with greater than or equal to 100,000 square feet of indoor floor space in a single building ~~dedicated to~~that may be used for warehousinge activities by one or more warehouse operators.

(c) Definitions

For the purpose of this rule, the following definitions shall apply:

(1) ALTERNATIVE ENERGY GENERATION EQUIPMENT means systems at a warehouse facility capable of generating electricity without the use of diesel or gasoline.

(2) ALTERNATIVE-FUELED VEHICLE means a vehicle or engine ~~that is~~which is not powered by gasoline or diesel fuel.

(3) ALTERNATIVE FUELING STATION means fuel dispensing equipment for alternative-fueled vehicles.

(4) CLASS 2B TRUCK means a truck with a Gross Vehicle Weight Rating (GVWR) of 8,501 to 10,000 pounds.

(5) CLASS 3 TRUCK means a truck with a GVWR of 10,001 to 14,000 pounds.

~~(4)~~(6) CLASS 4 TRUCK means a truck with a GVWR ~~Gross Vehicle Weight Rating (GVWR)~~ of 14,001 to 16,000 pounds.

~~(5)~~(7) CLASS 5 TRUCK means a truck with a GVWR of 16,001 to 19,500 pounds.

~~(6)~~(8) CLASS 6 TRUCK means a truck with a GVWR of 19,501 to 26,000 pounds.

~~(7)~~(9) CLASS 7 TRUCK means a truck with a GVWR of 26,001 to 33,000 pounds.

~~(8)~~(10) CLASS 8 TRUCK means a truck with a GVWR of greater than 33,001 pounds.

~~(9)(1) ELECTRIC CHARGER means an electric charging station for vehicles. Each unique plug that can charge an individual vehicle at any time, regardless of whether other electric chargers/plugs are operating, counts as one electric charger.~~

~~(10)~~(11) COLD STORAGE FACILITY means a distribution facility that temporarily stores perishable goods ~~that are~~which are required to be either refrigerated or frozen.

(12) DIESEL PARTICULATE MATTER (DPM) means the particles found in the exhaust of diesel fueled internal combustion engines. DPM is a component of fine particulate matter.

~~(11)~~(13) DWELL TIME means the number of hours per day ~~that~~ a truck or tractor is parked at a warehouse.

(14) ELECTRIC CHARGER means an electric charging station for vehicles. Each unique plug that can charge an individual vehicle at any time, regardless of whether other electric chargers/plugs are operating, counts as one electric charger. This equipment is also referred to as Electric Vehicle Supply Equipment (EVSE).

(15) FUEL TYPE means the fuel used to power a vehicle, such as electricity, hydrogen, natural gas, gasoline, or diesel fuel.

~~(12)~~(16) LEVEL 2 CHARGER means electric vehicle supply equipment (EVSE) that can deliver an electric charge up to a rate of 19.2 kilowatts (kW).

~~(13)~~(17) LEVEL 3 CHARGER means EVSE that can deliver an electric charge between 19.2 and 50 kW.

~~(14)~~(18) LEVEL 4 CHARGER means an EVSE that can deliver an electric charge between 51 and 150kW.

~~(15)~~(19) LEVEL 5 CHARGER means an EVSE that can deliver an electric charge ~~above~~ greater than 151 kW.

~~(16)~~(20) NEAR-ZERO EMISSIONS (NZE) TRUCKS means trucks or tractors with engines ~~that~~ meeting the California Air Resources Board's

lowest non-zero optional NOx standard as defined in the California Code of Regulations Title 13, section 1956.8.

(21) NITROGEN OXIDES (NOx) mean the sum of nitric oxides and nitrogen dioxides emitted, calculated as nitrogen dioxide.

~~(17)~~(22) PARENT COMPANY means a company or other entity that owns a controlling interest in a company directly or through one or more subsidiaries.

~~(18)~~(23) STRAIGHT TRUCK means a truck that carries cargo on the same chassis as the power unit and cab.

~~(19)~~(24) TRACTOR means a heavy-~~-~~duty Class 7 or 8 truck designed to pull a semi-trailer.

~~(20)~~(25) TRUCK CLASS means the size of a truck based on its GVWR.

(26) TRUCK TRIP means the one-way trip ~~that~~ a truck or tractor makes to or from a site with at least one warehouse to deliver or pick up goods stored at that warehouse~~,~~ for later distribution to other locations. A truck or tractor entering a warehouse site and then leaving that site counts as two trips.

~~(21)~~(27) VEHICLE MILES TRAVELED (VMT) means total annual miles of vehicle travel.

(28) WAREHOUSE means a building ~~facility consisting of one or more buildings~~ that stores cargo, goods, or products on a short- or ~~long~~ long-term basis for later distribution to businesses and/or retail customers.

~~(22)~~(29) WAREHOUSE FACILITY means a property that includes a warehouse as well as accessory uses such as parking areas and driving lanes for trucks, trailers, or passenger vehicles; entry and exit points for vehicles; accessory maintenance or security buildings; and fueling or charging infrastructure for vehicles.

~~(23)~~(1) ~~WAREHOUSING ACTIVITIES means operations at a warehouse related to the storage and distribution of goods, including but not limited to the storage, labelling, sorting, consolidation and deconsolidation of products into different size packages. Supporting office administration, maintenance, or manufacturing areas within the same warehouse building, that are physically separate from the warehouse area, are not considered warehousing activities for the purpose of this rule.~~

~~(24)~~(30) WAREHOUSE OPERATOR means the ~~business~~ entity who conducts day-to-day operations at a warehouse, either with its employees or through the contracting out of services for all or part of the warehouse

operations. A warehouse operator can be, but is not necessarily the warehouse owner.

(~~25~~)(31) WAREHOUSE OWNER means the legal, beneficial, and/or equitable owner or owners of a warehouse facility~~business entity or entities who hold the deed to a warehouse~~.

(~~26~~)(32) WAREHOUSE SIZE means the indoor floor space, measured in square feet, of an individual warehouse building ~~dedicated to warehousing~~ that may be used for warehousing activities.

(33) WAREHOUSING ACTIVITIES means operations at a warehouse related to the storage and distribution of goods, including but not limited to the storage, labelling, sorting, consolidation and deconsolidation of products into different size packages. Supporting office administration, maintenance, or manufacturing areas within the same warehouse building, that are physically separate from the warehouse area, are not considered warehousing activities for the purpose of this rule.

(~~27~~)(34) YARD TRUCK means a mobile utility vehicle, that operates as either ~~with~~ an on- or off-road vehicle ~~engine installed~~, used to carry cargo containers with or without a chassis; also commonly known as a terminal tractor, utility tractor rig ~~(UTR)~~, yard tractor, yard goat, or yard hostler.~~, yard hustler, or prime mover.~~means a tractor that moves trailers short distances at a warehouse, or to a nearby warehouse.

(~~28~~)(35) ZERO-EMISSION (ZE) TRUCK has the same meaning as "zero emission vehicle" defined in California Code of Regulations, Title 13, Section 1963.

(d) Requirements

(1) Warehouse Points Compliance Obligation

Beginning with the Initial Reporting Date in Table ~~2~~1, a warehouse operator shall earn the applicable WAIRE Points, for the prior 12-month period from July 1 through June 30, in the amount identified in Table ~~1~~ 2 as specified in subparagraph (d)(1)(A). WAIRE Points shall be earned for actions and investments completed during the compliance period while the warehouse operator occupied the warehouse, except as specified in paragraph (d)(~~3~~6). ~~Subdivision (d) only applies to~~ Only warehouse operators in buildings with greater than or equal to 100,000 square feet of floor area ~~dedicated to warehousing~~ that may be used for warehousing activities and who operate

at least 50,000 square feet of the warehouse are required to earn WAIRE Points.

(A) The number of WAIRE Points that a warehouse operator must earn in the applicable compliance period shall be calculated according to the following equation.

$$WPCO = WATTs \times Stringency \times \begin{pmatrix} Annual \\ Variable \end{pmatrix}$$

Where:

WPCO = WAIRE Points Compliance Obligation, or the number of WAIRE Points that a warehouse operator must earn every year

WATTs = Weighted Annual Truck Trips as calculated in subparagraph (d)(1)(B) or (d)(1)(C), as applicable

Stringency = XXX

Annual Variable = As specified in Table 2~~1~~

(B) The Weighted Annual Truck Trips (WATTs) at a warehouse include all actual truck trips that occurred at a warehouse while the warehouse operator was responsible for operations during the 12-month compliance period. If a warehouse is occupied by more than one warehouse operator, the WATTs are calculated only for truck trips to or from that operator. Actual truck trip data to a warehouse shall be collected by the warehouse operator and WATTs shall be calculated according to the following equation and as specified in the WAIRE Program Implementation Guidelines.

WATTs = [Class ~~4~~ 2b to 7 truck trips] + [2.5 × Class 8 truck trips]

Where:

Class ~~4~~ 2b to 7 truck trips = All trucks or tractors ~~that~~ entering~~ed~~ or exiting~~ed~~ a warehouse truck gate(s) or driveway(s) that are truck ~~c~~Class 2b, 3, 4, 5, 6, or 7. If truck class

information is not available, Class ~~4~~ 2b to 7 trucks are all straight trucks that entered or exited a warehouse truck gate(s) or driveway(s).

Class 8 truck trips = All ~~c~~Class 8 trucks or tractors ~~that~~ entere~~d~~ing or exiting a warehouse truck gate(s) or driveway(s). If truck class information is not available, Class 8 trucks are all tractors that entered or exited a warehouse truck gate(s) or driveway(s).

(C) If a warehouse operator does not have information about the number of truck trips at a warehouse due to a force majeure event such as a destruction of records from a fire, the WATTs shall be calculated according to the following equation.

WATTs = Days per Year × Warehouse Size × WTTR

Where:

Days per Year = The number of days that the warehouse operator has operational control of the warehouse during the 12-month compliance period

Warehouse Size = Warehouse size in thousand square feet (tsf), as defined in subdivision (c)

WTTR = Weighted Truck Trip Rate, where:
Warehouses ≥200,000 = 0.95 trips/tsf/day
Warehouses ≥100,000 = 0.67 trips/tsf/day
Cold Storage Warehouses = 2.17 trips/tsf/day

(2) Earning WAIRE Points

WAIRE Points shall only be earned through completing actions in the WAIRE Menu in Table 3 and as described in (d)(3), or by completing actions in an approved Custom WAIRE Plan as described in (d)(4), or by choosing to pay a mitigation fee as described in (d)(5) in lieu of completing actions in the WAIRE Menu or in an approved Custom WAIRE Plan.

~~(2)~~(3) ~~Determining the Number of~~ WAIRE Points Earned Using the WAIRE Menu

~~All WAIRE Points a~~A warehouse operator may earn~~s~~ WAIRE Points ~~shall be determined~~ for actions completed in the WAIRE Menu in Table 3 and based on the point values specified therein~~. the WAIRE Menu in Table 3.~~

(A) WAIRE Points may not be earned from WAIRE Menu items in Table 3 if those same actions or investments are required by ~~a~~ separate the United States Environmental Protection Agency (U.S. EPA), the California Air Resources Board (CARB), or South Coast AQMD rules and regulations during the compliance year in paragraph (d)(1). Actions or investments that go beyond U.S. EPA, CARB, or South Coast AQMD rules and regulations can earn WAIRE Points.

~~(3)~~(4) WAIRE Points Earned Using a Custom WAIRE Plan

(A) Warehouse owners or operators may apply to earn WAIRE Points through a customized plan for their facility. The Custom WAIRE Plan application shall follow the WAIRE Implementation Guidelines and the criteria below.

(i) Custom WAIRE Plan applications must demonstrate how the proposed action will earn WAIRE Points based on the incremental cost of the action, the NOx emission reductions from the action, and the DPM emission reductions from the action, relative to baseline conditions if the warehouse operator had not completed the action in that compliance year.

(A) The methodology to determine the total WAIRE Points for an action in a Custom WAIRE Plan application shall be consistent with methods in the WAIRE Program Implementation Guidelines.

(ii) Any WAIRE Points for emission reductions must be quantifiable, verifiable, and real as determined by the Executive Officer and consistent with the WAIRE Implementation Guidelines.

(iii) Custom WAIRE Plan applications must include the elements described below:

(A) A description how the proposed actions will achieve quantifiable, verifiable, and real NOx and DPM emission reductions as quickly as feasible, but no later than three years after plan approval; and

(B) A quantification of expected NOx and/or DPM emission reductions from the proposed project within the South Coast AQMD and within three miles of the warehouse; and

(C) A description of the method to be used to verify that the proposed project will achieve NOx and/or DPM emission reductions; and

(D) A schedule of key milestones showing the increments of progress to complete the proposed project; and

(E) A description of the location and a map of where the proposed project will occur; and

(F) Any expected permits or approvals required by other private parties, or South Coast AQMD, or other federal, state, or local government agencies to implement the proposed plan.

(iv) Any proposed plan that relies on VMT reduction must demonstrate that these reductions are surplus to what is included in the most recent approved Regional Transportation Plan (RTP) and Air Quality Management Plan (AQMP).

(B) Review of Custom Option Plan Applications

(i) A Custom WAIRE Plan application must be submitted at least 9 months before an Annual WAIRE Report is due for the year in which the Plan will earn Points.

(ii) Within 30 days of receipt of the Custom Option Plan, the Executive Officer will conduct an initial review of the Custom Option Plan and confirm receipt.

(iii) The Executive Officer shall approve or reject the Custom Option Plan within 3 months of submittal. If no formal approval or rejection is received by the applicant, the application is presumed rejected unless otherwise provided

for by the Executive Officer in writing. Approval or rejection will be based on whether:

(A) The Custom Option Plan was prepared consistent with paragraph (d)(4)(A) and in accordance with the WAIRE Program Implementation Guidelines; and

(A) The information provided was complete and accurate.

(iv) Within 30 days of the date of notification by the Executive Officer of disapproval of a Custom WAIRE Plan application, an owner or operator shall revise and resubmit a Custom Plan Proposal that corrects all identified deficiencies. If the Executive Officer does not approve the subsequent revised plan within 30 days of resubmission, then no WAIRE Points may be earned from the Custom WAIRE Plan in the current compliance period.

(v) A Custom WAIRE Plan application shall be made available, by the Executive Officer, for public review no less than thirty (30) days prior to approval.

(C) For any Plan that requires implementation beyond the subsequent Annual WAIRE Report, a progress report must be provided every six months after Plan approval. The progress report shall be consistent with the WAIRE Program Implementation Guidelines and include at a minimum, all of the following:

(i) The key milestones achieved and a schedule indicating dates for future increments of progress; and

(ii) Identification of any milestones that have been or will be achieved later than specified in the approved Custom Plan and the reason for achieving the milestones late. The progress report must describe how each late milestone will be achieved and when WAIRE Points are anticipated to be earned from that action.

(D) If the Executive Officer determines that a warehouse owner or operator is not making adequate progress to complete an approved Custom WAIRE Plan, then the Executive Officer may rescind approval of the plan 30 days after notifying the plan applicant of the proposed rescission. The notice to the plan applicant shall contain

a description of the identified deficiencies in the Custom WAIRE Plan implementation.

(i) If the owner or operator does not subsequently demonstrate to the Executive Officer's satisfaction that the deficiencies in implementing the plan have been corrected, then the Executive Officer will rescind approval of the Custom WAIRE Plan and notify the owners or operators of the rescission.

~~(A)~~(E) If the expected WAIRE Points from an approved Custom Plan are not earned during the applicable compliance period, the owner or operator shall be in violation of this rule unless the owner or operator demonstrates that they have met their Warehouse Points Compliance Obligation by the date that they submit their Annual WAIRE Report using WAIRE Points earned through requirements in paragraphs (d)(3) or (d)(5).

~~(4)~~(5) Mitigation Fee

In lieu of earning the required number of WAIRE Points in paragraph (d)(3) or (d)(4) ~~If~~ a warehouse operator ~~does not earn a sufficient number of WAIRE Points to~~ may choose to satisfy all or any remaining part of their WAIRE Points Compliance Obligation ~~in (d)(1), they shall pay~~ through payment of a mitigation fee ~~to make up the difference according to the schedule below.The mitigation fee rate shall be equal to~~ in the amount of $1,000~~XX~~ for each WAIRE Point.

~~(A) In any one compliance year, if a warehouse operator does not complete at least 50% of their WAIRE Points Compliance Obligation through the earning of WAIRE points from Table 3, the following year the mitigation fee rate shall be ten percent more than the dollar value per WAIRE Point that the warehouse operator paid in the previous year.~~

~~(5)~~(6) Transferring WAIRE Points

WAIRE Points are not transferable, except as specified below.

(A) Transferring WAIRE Points to a Different Warehouse

If a warehouse operator conducts warehousing activities at more than one warehouse, then WAIRE Points earned for one warehouse may be used at the other warehouse(s) under the operational control of that same warehouse operator. Only those points ~~that are~~ earned

in excess of a warehouse operator's WAIRE Points Compliance Obligation at that site may be transferred. Any WAIRE Points transferred to a different warehouse shall be discounted as ~~calculated using the values~~ specified in the WAIRE Menu in Table 3.

(B) Transferring WAIRE Points to a Different Compliance Year

If a warehouse operator earns more WAIRE Points than is required for its annual Warehouse Points Compliance Obligation, then it may use those remaining WAIRE Points at the same warehouse to satisfy its Warehouse Points Compliance Obligation in any of the following three years.

(i) WAIRE Points may not be transferred to a subsequent compliance year if the WAIRE Menu items used to earn WAIRE Points are required by ~~a~~ U.S. EPA, CARB, or South Coast AQMD rules and regulations in that subsequent year.

(ii) Owners or operators transferring WAIRE Points to a different compliance year shall demonstrate that any onsite improvements or equipment installations that were used to earn the WAIRE Points being transferred are still operational at that warehouse facility in the year that WAIRE Points are used.

~~(ii)~~(iii) WAIRE Points earned prior to a warehouse operator's first compliance year pursuant to paragraph (d)(1) may be banked and transferred up to three years after the warehouse operator's first compliance year. This early compliance must be documented in an Annual WAIRE Report immediately following the year in which the action or investment was completed.

(C) Transferring WAIRE Points Between a Warehouse Owner and a Warehouse Operator

A warehouse owner may earn WAIRE Points during a compliance period using the methods specified in paragraphs (d)(~~2~~3), (d)(4), or (d)(5) or may have WAIRE Points transferred to them from the warehouse operator at that site. The warehouse owner may transfer these WAIRE Points to any warehouse operator at the site where the WAIRE Points were earned within a three-year period after the

points were earned.

(7) Reporting

(A) Warehouse Operations Notification

Warehouse owners shall notify the South Coast AQMD in the manner specified in paragraph (e)(1) when any of the following conditions occur:

(i) Within 60 calendar days of rule adoption;

(ii) Within 14 calendar days after a new warehouse operator has the ability to use at least 50,000 square feet of a warehouse that has greater than or equal to 100,000 square feet used for warehousing activities;

(iii) Within 30 calendar days after a renovated warehouse has received a certificate of occupancy from the local land use agency such that the total warehouse space that may be used for warehousing activities has increased or decreased; or

(iv) Within three calendar days of a request from the Executive Officer.

(B) Initial Site Information Report

Warehouse operators shall submit an Initial Site Information Report in the manner specified in paragraph (e)(2) no later than January 15 of the year that they must submit their first annual WAIRE Report for that warehouse facility, or within 30 calendar days of a request by the Executive Officer.

~~(D)~~(C) Annual WAIRE Report

Warehouse operators shall submit an annual WAIRE Report in the manner specified in paragraph (e)(3)~~by the Executive Officer~~ no more than 30 calendar days after July 1, beginning with the Initial Reporting Date in Table 1~~2~~. The annual WAIRE Report, in accordance with the WAIRE Program Implementation Guidelines, shall include the information described in paragraph (e)(3) to demonstrate how the warehouse operator satisfied the requirement of paragraph (d)(1) in the preceding compliance period.

(D) If a warehouse operator vacates a warehouse prior to the Annual WAIRE Report submission date in subparagraph (d)(7)(c)~~June 30~~ in any year that they must satisfy an annual WAIRE Points

Compliance Obligation, then the Annual WAIRE Report shall be submitted to South Coast AQMD no later than the date that they vacate the warehouse.

(e) Reporting, Notification, and Recordkeeping Requirements

~~(1) Warehouse Operations Notification~~

~~The warehouse owner shall notify the South Coast AQMD within two months of rule passage and also no later than two weeks after any of the following conditions:~~

~~(A) A new warehouse operator has taken over operational control of a warehouse with more than 100,000 square feet dedicated to warehousing activities,~~

~~(B) A warehouse building has been modified and the total warehouse space dedicated to warehousing activities has been changed~~

~~(C) Upon request of the Executive Officer.~~

~~(2)~~(1) Warehouse Operations Notification

The notification required ~~in~~ pursuant to subparagraph (d)(7)(A)~~(e)(1)~~ shall be made in the manner specified by the Executive Officer and the WAIRE Program Implementation Guidelines. The notification shall include:

(A) The ~~business~~ legal name and contact information of the warehouse operator;

(B) The duration of the current lease term, if applicable;

(C) The warehouse size(s) and the square footage ~~dedicated to warehousing~~ that may be used for warehousing activities under the operational control of each of the current warehouse operator~~(s)~~s at a site; and

(D) The ~~business name~~last known legal name and contact information of the previous warehouse operator and the end date of the previous warehouse operator's warehousing activities at that site, if applicable.

~~(3) Initial Site Information Report~~

~~The warehouse operator shall submit an Initial Site Information Report by January 15 of the year that they must submit their first annual WAIRE Report for that facility, or within 30 days of a request by the Executive Officer. The Initial Site Information Report shall include information as specified in subparagraphs (A) through (G) below.~~

(2) Initial Site Information Report

The Initial Site Information Report required in subparagraph (d)(7)(B) shall be made in the manner specified by the Executive Officer and the WAIRE Implementation Guidelines, and shall include the following information:

(A) ~~The Initial Site Information Report shall include the w~~Warehouse size, and the square footage that may be used for ~~dedicated to~~ warehousing activities.

(i) If the warehouse building has less than 100,000 square feet ~~dedicated to~~that may be used for warehousing activities, then no additional information ~~in~~ pursuant to ~~–~~ subparagraphs (e)(2)(B) through (e)(2)(G) ~~below~~ is required.

~~(i)~~(ii) Any operator leasing less than 50,000 square feet of warehouse space that may be used for warehousing activities is not required to report additional information pursuant to subparagraphs (e)(2)(B) through (e)(2)(G), unless the same parent company owns or controls multiple operators in the same building who collectively use greater than or equal to 50,000 square feet of warehousing space for warehousing activity.

(B) ~~The Initial Site Information Report shall include~~ Actual truck trip data, including:

(i) Number of truck trips in the previous 12-~~-~~month period for the warehouse operator at that warehouse;

(ii) Number of truck trips anticipated for the next applicable 12-month compliance period in subdivision (d); and

(iii) For the purposes of this subparagraph, truck trips shall be reported in two categories. The first category shall include all trucks or tractors using a facility's truck gate or driveway that are truck ~~c~~Class ~~4~~ 2b through truck ~~c~~Class 7, or straight trucks if truck class information is not available. The second category shall include all trucks and tractors that are truck ~~c~~Class 8, or all tractors if truck class information is not available.

(C) If the warehouse operator owns or leases on-road trucks or tractors that serve that warehouse, the Initial Site Information Report shall include fleet data including:

(i) Number of trucks and tractors in the fleet serving that warehouse, by truck class, and fuel type;

(ii) Total VMT by truck class and fuel type; and

(iii) Typical dwell time at the facility by truck class; and

~~(iii)~~(iv) Information about which trucks or tractors are owned or leased.

(D) If the warehouse has an alternative fueling station(s) or electric charging station(s) located onsite, the Initial Site Information Report shall include:

(i) Number of electric chargers/alternative fueling stations installed. The report must include the level for each electric charging station. For alternative-fueling stations, the report must include the fuel type, maximum fuel dispensing rate, the maximum amount of fuel that can be dispensed daily, and the pressure of the fueling system, if applicable~~.~~;

(ii) Types of vehicles served;

(iii) Total fuel dispensed and/or charging provided in the previous 12-~~-~~month period.

(E) If the warehouse operator has yard trucks that are ~~based~~ used at that ~~site~~ warehouse facility, the Initial Site Information Report shall include:

(i) Number of yard trucks, and indicate which of these are registered as motor vehicles under Vehicle Code section 4000, et seq. ~~by onroad and offroad classification~~;

(ii) Fuel type and engine size; and

(iii) Total annual hours of operation of all yard trucks.

(F) If the warehouse has onsite alternative energy generation equipment and/or onsite energy storage equipment, the Initial Site Information Report shall include:

(i) The type and rated capacity of the alternative energy generation system in kilowatts and kilowatt-~~-~~hours per year, and/or rated capacity of the energy storage system in kilowatt-hours, as applicable.

(ii) The total energy generation and/or usage of the energy storage system in kilowatt hours expected during the next applicable 12-~~-~~month compliance period in subdivision (d).

(G) The Initial Site Information Report shall include whether the warehouse operator anticipates earning WAIRE Points from the WAIRE Menu, from a Custom WAIRE Plan, or by choosing to pay a mitigation fee ~~the anticipated categories from the WAIRE Menu that the warehouse operator expects to use~~ for the next applicable 12-month compliance period in subdivision (d). If the warehouse operator anticipates using the WAIRE Menu, the anticipated actions in the WAIRE Menu shall be reported. The actual WAIRE Menu items used for compliance ~~in the next applicable 12-month compliance period~~ can be from ~~those~~ the methods reported in the Initial Site Information Report, or from any other category in the WAIRE Menu, or any other method to earn WAIRE Points in paragraph (d)(2).

~~(4)~~(3) Annual WAIRE Report

~~Annual WAIRE Reports required under subdivision (d) shall contain information as specified in subparagraphs (e)(4)(A) and (e)(4)(B) below.~~ Annual WAIRE Reports required pursuant to subparagraph (d)(7)(C) or (D) shall be made in the manner specified by the Executive Officer and as specified in the WAIRE Implementation Guidelines, and shall include the following information:~~.~~

(A) The Annual WAIRE Report shall include truck trip data, including:

(i) Number of actual truck trips during the compliance period in described in paragraph (d)(1); and

(ii) Truck trips shall be reported in the same manner as described in subparagraph (e)(~~3~~2)(B)(iii)

(B) For every WAIRE Menu item used to earn WAIRE Points, the WAIRE Annual Report shall contain ~~the~~ information about the Reporting Metric specified in Table 3.

~~(B)~~(C) Every Annual WAIRE Report shall include current contact information for the warehouse operator.

(4) Recordkeeping

Records which document the accuracy and validity of all information submitted to the South Coast AQMD as required by this ~~R~~rule shall be kept by the warehouse operator or owner as applicable, for a minimum of seven years from the reporting deadline, and made available upon request during

normal business hours.

(f) WAIRE Implementation Guidelines

The Executive Officer shall periodically publish guidelines for implementing the WAIRE Program.

(g) Exemptions

~~(5)~~(1) Operators In Warehouses That Have Less Than 50,000 Square Feet That They May Use For Warehousing Activities

Warehouse operators who can only use less than 50,000 square feet of a warehouse for warehousing activities due to terms of their lease are not subject to the requirements in subdivision (d)(1) unless the same parent company owns or controls multiple operators in the same building who collectively use more than 50,000 square feet of space for warehousing activity.

~~(6)~~(2) Unforeseen Circumstances

In instances where investments or actions completed by an owner or operator perform at a level significantly lower than anticipated due to unforeseen circumstances beyond the control of the warehouse operator and such that the anticipated WAIRE Points for that action can not be fully earned, the owner or operator may apply for a partial or complete exemption to the Executive Officer following procedures in the WAIRE Program Implementation Guidelines. The application must specify what portion of the WPCO determined by subparagraph (d)(1) that the malfunctioning equipment would have satisfied and why WAIRE Points can not be earned from other actions in subparagraph (d)(2).

~~(f)~~(h) Severability

If any provision of this rule is held by judicial order to be invalid, ~~or invalid~~ or inapplicable to any person or circumstance, such order shall not affect the validity of the remainder of this rule, or the validity or applicability of such provision to other persons or circumstances. In the event any of the exceptions to this rule are held by judicial order to be invalid, the persons or circumstances covered by the exception shall instead be required to comply with the remainder of this rule.

Table 1 – Initial Requirement Date

Warehouse Size (sq. ft.)	Initial Reporting Date
> 250,000	August 2, 2022
> 150,000	August 1, 2023
> 100,000	July 31, 2024

Table ~~1~~ 2 – Annual Variable

WAIRE Report Year*	Annual Variable
First Year	XX
Subsequent Years	XX
Etc.	XX
	XX
	XX

* This is the year that a warehouse submitted its Annual WAIRE Report.

~~**Table 2 – Initial Requirement Date**~~

~~Warehouse Size (sq. ft.)~~	~~Initial Reporting Date~~
~~≥ 250,000~~	~~July 30, 2021~~
~~≥ 150,000~~	~~August 2, 2022~~
~~≥ 100,000~~	~~August 1, 2023~~

Table 3 WAIRE Menu

Action/Investment	Action/Investment Details	Reporting Metric	Annualized Metric	WAIRE Points per Annualized Metric	Discounted WAIRE Points Subparagraph (d)(6)(A)
Acquire ZE/NZE Trucks in Warehouse Operator Fleet	ZE Class 8	Number of trucks	One truck acquired	126	126
	ZE Class 4-7			68	68
	ZE Class 2b-3			14	14
	NZE Class 8			55	55
	NZE Class 4-7			26	26
ZE/NZE Truck Visits	ZE Class 8	Number of visits	365 truck visits	51	33
	ZE Class 4-7			12	9
	ZE Class 2b-3			9	6
	NZE Class 8			42	24
	NZE Class 4-7			12	9
Acquire ZE Yard Truck		Number of yard trucks	One yard truck acquired	177	177
Use ZE Yard Truck		Hours of use	1,000 hours	291	51
Install Onsite ZE Charging or Fueling Infrastructure	Level 5 EVSE Purchase	Number of EVSE purchased	One EVSE purchased	118	118
	Level 4 EVSE Purchase			51	51
	Level 3 EVSE Purchase			26	26
	Level 2 EVSE Purchase			5	5
	TRU Plug EVSE Purchase			3	3
	Begin construction on Level 3, 4, or 5 charger project	First day of construction	One construction project	9	9
	Begin construction on Level 2 charger project			9	9
	Begin construction on TRU Plug project			5	5
	Finalize Level 3, 4, or 5 charger project	The latter of final permit sign off or charger energization	One construction project	59	59
	Finalize Level 2 charger project			9	9
	Finalize TRU Plug project			7	7
	Hydrogen (H_2) Station	Daily capacity of station in kilograms (kg)	One 700 kg/day station construction project	1,680	1,680
Use Onsite ZE Charging or Fueling Infrastructure	Vehicle Charging	Kilowatt-hours (kWh) of dispensed electricity	165,000 kWh	42	24
	TRU Charging		10,658 kWh	10	3
	H_2 Station Usage	Kg of dispensed H_2	6,152 kg	43	25
Install Onsite Solar Panels	Rooftop	Size of system in kW	100 kW system	23	23
	Carport			27	27
Use Onsite Solar Panels		Energy production in kWh	165,000 kWh	2	2
Install High-Efficiency Filters or Filter Systems in Residences, Schools, Daycares, Hospitals, or Community Centers	Install Stand-Alone System	Number of systems installed	25 systems	55	55
	Install Filters	Number of filters installed	200 filters	51	51

APPENDIX B

Proposed Rule 316 – Fees for Regulation XXIII

PROPOSED RULE 316 FEES FOR REGULATION XXIII

(a) Purpose

California Health and Safety Code Section 40522.5 provides authority for the South Coast Air Quality Management District to adopt a fee schedule for areawide or indirect sources of emissions which are regulated, but for which permits are not issued, to recover the costs of programs related to these sources. The purpose of this rule is to recover the South Coast AQMD's cost of implementing the programs in Regulation XXIII.

(b) Applicability

This rule applies to owners and operators of facilities subject to Rule 2305 that submit an Annual WAIRE Report, a Custom WAIRE Plan application, an Initial Site Information Report, a Warehouse Operations Notification, or that pay a Mitigation Fee.

(c) Definitions

For the purpose of this rule, the following definitions shall apply:

(1) ANNUAL WAIRE REPORT is the annual report submitted by a warehouse operator or owner demonstrating how they satisfied their Warehouse Points Compliance Obligation pursuant to Rule 2305 (d)(7)(C).

(2) CUSTOM WAIRE PLAN APPLICATION is the application submitted by a warehouse operator or owner that describes the customized method that they propose to use to satisfy their Warehouse Points Compliance Obligation pursuant to Rule 2305 (d)(4).

(3) INITIAL SITE INFORMATION REPORT is the report submitted by a warehouse operator pursuant to Rule 2305 (d)(7)(B).

(4) MITIGATION FEE is the fee paid by a warehouse operator or owner pursuant to Rule 2305 (d)(5).

(5) WAREHOUSE has the same definition as in Rule 2305 (c)(28).

(6) WAREHOUSE OPERATIONS NOTIFICATION is the report submitted by a warehouse owner with information about the warehouse building and any business leasing the warehouse pursuant to Rule 2305 (d)(7)(A).

(7) WAREHOUSE OPERATOR has the same definition as in Rule 2305 (c)(30).

(8) WAREHOUSE OWNER has the same definition as in Rule 2305 (c)(31).

(9) WAREHOUSING ACTIVITIES has the same definition as in Rule 2305 (c)(33).

(d) Annual WAIRE Fees

Warehouse operators and owners who submit reports or notifications required by Rule 2305 shall pay fees according to Table 1. These fees are due at the time that the applicable report or notification must be submitted pursuant to Rule 2305.

Table 1

Report or Notification	Fee
Annual WAIRE Report	$XXX.XX
Initial Site Information Report	$XXX.XX
Warehouse Operations Notification	$XXX.XX

(e) Custom WAIRE Plan Application Evaluation Fee

(1) Warehouse owners who submit a Rule 2305 Custom WAIRE Plan Application shall be charged fees on a time and materials basis. The amount charged shall be an amount equal to the total actual and reasonable time incurred by South Coast AQMD staff for evaluation of the application, assessed at the hourly rate or prorated portion of $XXX.XX. The initial fee shall be $XXX.XX for each plan, and shall be paid when the Custom WAIRE Plan application is submitted.

(2) The adjustment to plan application evaluation fees will be determined at the time a plan is approved or rejected and may include additional fees based upon actual review and work time billed. Notification of the amount due or refund will be provided to the applicant, and any additional fees due to the adjustment to plan evaluation fees will be billed following project completion.

(f) Mitigation Program Administrative Fee

Warehouse owners or operators who pay a mitigation fee pursuant to Rule 2305 (d)(5) shall pay an additional fee to cover the reasonable costs incurred by South Coast AQMD staff and/or its consultants to administer the Mitigation Program. This administrative fee shall be equal to five percent of the mitigation fee paid by the warehouse owner or operator, and shall be paid when the mitigation fee is paid.

(g) Payment Due Date

Payment of all applicable fees in subdivisions (d) and (e) shall be due in sixty (60) days from the date of personal service or sending by mail, electronic mail, or other electronic means, of the notification of the amount due. For the purpose of this paragraph, the fee payment will be

considered to be received by the South Coast AQMD if it is delivered, postmarked, or electronically paid on or before the expiration date stated on the billing notice. If the expiration date falls on a Saturday, Sunday, or a state holiday, the fee payment may be delivered, postmarked, or electronically paid on the business day following the Saturday, Sunday, or the state holiday with the same effect as if it had been delivered, postmarked, or electronically paid on the expiration date.

(h) Late Fees

The monetary charge for those warehouse owners or operators who violate the fee due date specified in subdivisions (f) and (g) shall be added to the original amount of the fee due according to the schedule in Table 2.

Table 2

Less than 30 days	5% of original fee
30 days to 90 days	15% of original fee
91 days to 1 year	25% of original fee
More than 1 year	50% of original fee

(i) Exemptions

(1) Any warehouse owner who submits a Warehouse Operations Notification for a warehouse that has less than 100,000 square feet of floor area dedicated to warehousing activities that year is not required to pay fees described in subdivisions (d) through (h).

(2) Any warehouse operator who operates less than 50,000 square feet of a warehouse for warehousing activities and for which Rule 2305 (e)(2)(A)(ii) applies is not required to pay fees described in subdivision (d).

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APPENDIX C

NOP Comments and Responses

Responses to Comments Received on the Notice of Preparation of a Draft EA and Initial Study

PR 2305 and PR 316 are considered a "project" as defined by the California Environmental Quality Act (CEQA). Pursuant to CEQA, the South Coast AQMD, as lead Agency, prepared a Notice of Preparation of the Draft Environmental Assessment and Initial Study (referred to as the NOP/IS) to analyze environmental impacts from the proposed project pursuant to its certified regulatory program (Public Resources Code Section 21080.5, CEQA Guidelines Section 15251(l), and South Coast AQMD Rule 110). The NOP/IS was released for a 32-day public review and comment period that began Friday, November 13, 2020 and ended on Tuesday, December 15, 2020. In addition, because the proposed project could have statewide, regional or areawide significance, a CEQA Scoping Meeting was held on December 2, 2020 pursuant to Public Resources Code Section 21083.9(a)(2).

A total of 12 comment letters were received during the comment period; one comment was received in regard to CEQA at the CEQA Scoping Meeting; and one comment letter was received after close of the comment period. Table C-1 provides a list of the comment letters received in response to the NOP/IS. For the purpose of identifying comments, comment letters are assigned a number (top center of the first page of each letter). For example, the first comment letter received from Augustine Band of Cahuilla Indians is labeled Comment Letter #1.

Table C-1 – List of Commenters on the NOP/IS Received by South Coast AQMD

Number	Commenting Organization/Person	Date Received
Comment Letters That Do Not Require a Response		
1	Augustine Band of Cahuilla Indians	11/16/2020
2	Native American Heritage Commission	11/16/2020
3	Santa Ynez Band of Chumash Indians	12/2/2020
4	California Highway Patrol – Southern Division	12/3/2020
5	California Highway Patrol – Mojave Area	12/4/2020
6	California Highway Patrol – San Bernardino	12/8/2020
14	San Pasqual Band of Mission Indians	12/28/2020
Comment Letters For Which Responses Have Been Prepared		
7	Holland & Knight	12/15/2020
8	Snell & Wilmer	12/15/2020
9	General Motors Customer Care & Aftersales	12/15/2020
10	Earthjustice; East Yard Communities For Environmental Justice; Natural Resources Defense Council; San Pedro & Peninsula Homeowners Coalition; Sierra Club San Gorgonio Chapter; Urban & Environmental Policy Institute	12/15/2020
11	Coalition for Clean Air	12/15/2020
12	Inland Empire Economic Partnership and the Southern California Logistics Council	12/15/2020
Comments Received at CEQA Scoping Meeting for Which Responses Have Been Prepared		
13	Frances Keeler, California Council for Environmental and Economic Balance	12/2/2020

Comment Letters 1 to 6 and 14 do not require a response because they do not raise issues related to the environmental analysis. Comment Letters 7 to 13 raise environmental issues and responses have been prepared. However, these letters included comments on both the proposed project and the NOP/IS. Please note that the comment received at the CEQA Scoping Meeting was transcribed by South Coast AQMD staff from the video conference recording. Although there were other comments raised and questions asked at the scoping meeting, they were directly related to the proposed project and rule requirements and did not raise environmental issues necessitating a response.

Comment Letter #1 – Augustine Band of Cahuilla Indians

AUGUSTINE BAND OF CAHUILLA INDIANS
PO Box 846 84-481 Avenue 54 Coachella CA 92236
Telephone: (760) 398-4722
Fax (760) 369-7161
Tribal Chairperson: Amanda Vance
Tribal Vice-Chairperson: William Vance
Tribal Secretary: Victoria Martin

Date: November 16, 2020

21865 Copley Drive
Diamond Bar, California 91765

RE: PROPOSED RULE 2305 – WAREHOUSE INDIRECT SOURCE RULE – WAREHOUSE ACTIONS AND INVESTMENTS TO REDUCE EMISSIONS (WAIRE) PROGRAM; AND PROPOSED RULE 316 – FEES FOR REGULATION XXIII

Dear: Barbara Radlein
Program Supervisor, CEQA

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources have resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time, we are unaware of specific cultural resources that may be affected by the proposed project, however, in the event, you should discover any cultural resources during the development of this project please contact our office immediately for further evaluation.

Very truly yours,

Victoria Martin, Tribal Secretary
Augustine Band of Cahuilla Indians

Comment Letter #2 – Native American Heritage Commission

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

November 16, 2020

Ryan Banuelos
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765-4182

Re: 2020110225, Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program; and Proposed Rule 316 – Fees for Regulation XXIII Project, Los Angeles, Orange, Riverside, and San Bernardino Counties

Dear Mr. Banuelos:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

Comment Letter #2 (Continued) – Native American Heritage Commission

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

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Comment Letter #2 (Continued) – Native American Heritage Commission

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

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Comment Letter #2 (Continued) – Native American Heritage Commission

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

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Comment Letter #2 (Continued) – Native American Heritage Commission

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

Page 5 of 5

Comment Letter #3 – Santa Ynez Band of Chumash Indians

SANTA YNEZ CHUMASH TRIBAL ELDER'S COUNCIL
TO PROTECT AND PRESERVE TRIBAL ANCESTRY, TRADITIONS AND CULTURE

Santa Ynez Band of Chumash Indians
Tribal Elders' Council
P.O. Box 517 ◆ Santa Ynez ◆ CA ◆ 93460
Phone: (805)688-7997 ◆ Fax: (805)688-9578 ◆ Email: elders@santaynezchuhmash.org

December 2, 2020

South Coast
Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Att.: Barbara Radlein, Program Supervisor

Re: South Coast AQMD – Proposed Rule 2305

Dear Mrs. Radlein:

Thank you for contacting the Tribal Elders' Council for the Santa Ynez Band of Chumash Indians.

At this time, the Elders' Council requests no further consultation on this project; however, we understand that as part of NHPA Section 106, we must be notified of the project.

Thank you for remembering that at one time our ancestors walked this sacred land.

Sincerely Yours,

Kelsie A. Merrick

Kelsie Merrick
Administrative Assistant | Elders' Council and Culture Department
Santa Ynez Bank of Chumash Indians | Tribal Hall
(805) 688-7997 ext. 7516
kmerrick@santaynezchumash.org

Comment Letter #4 – California Highway Patrol - Southern Division

Ryan Banuelos

From: Saunders, Joseph@CHP <JCSaunders@chp.ca.gov>
Sent: Thursday, December 3, 2020 2:38 PM
To: Ryan Banuelos
Cc: state.clearinghouse@opr.ca.gov; Mora, Leah@CHP
Subject: KH– Environmental Document Review – SCH # 2020110225 -- Due to Lead Agency by 12/15/2020

Good Afternoon,

Southern Division CHP has reviewed your project and determined there will be "no impact to our Area's local operations and/or public safety by SCH #2020110225 was identified."

Thank you,

Joseph Saunders, Sergeant

Southern Division
Staff Services
411 N. Central Avenue, suite 410
Glendale, CA 91203
(818) 240-8200
(818) 240-1496 (fax)
Email: jcsaunders@chp.ca.gov

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Comment Letter #5 – California Highway Patrol – Mojave Area

Ryan Banuelos

From: Walker, Kelley@CHP <KWalker@chp.ca.gov>
Sent: Friday, December 4, 2020 10:45 AM
To: Ryan Banuelos
Cc: Williams, John A@CHP; CHP-80AADesk; Jules, Monique@CHP; Mora, Leah@CHP; CHP-EIR; state.clearinghouse@opr.ca.gov; Enciso, Blanca@CHP
Subject: KH - Environmental Document Review - SCH #2020110225 - Mojave Area Response

Good Morning,

The Mojave Area has reviewed the environmental impact documents to identify if there are any issues or concerns. No impact to Mojave Area's local operations and/or public safety by SCH# 2020110225 was identified. Any questions please contact me.

Kelley Walker – Administrative Sergeant
California Highway Patrol – Mojave Area
1313 Highway 58
Mojave, CA 93501
(661) 823-5500 office
(661) 824-2455 fax

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Comment Letter #6 – California Highway Patrol – San Bernardino

Ryan Banuelos

From: Robinson, Bryon@CHP <BRobinson@chp.ca.gov>
Sent: Tuesday, December 8, 2020 5:23 AM
To: Ryan Banuelos
Cc: state.clearinghouse@opr.ca.gov; CHP-80AADesk; Jules, Monique@CHP; Mora, Leah@CHP; CHP-EIR; Enciso, Blanca@CHP; Navarro, Jaime@CHP
Subject: KH - Environmental Document Review - SCH #20200110225 - San Bernardino Area Response

The San Bernardino Area has reviewed the environmental impact documents to identify if there are any issues or concerns. No impact to San Bernardino Area's local operations and/or public safety by SCH#2020110225 was identified. Any questions please contact me.

Bryon Robinson, Sergeant
California Highway Patrol- San Bernardino
2211 Western Avenue
San Bernardino, CA 92411
909-383-4247

CALIFORNIA Highway Patrol

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Comment Letter #14 – San Pasqual Band of Mission Indians

IPAI

SAN PASQUAL BAND OF MISSION INDIANS

SAN PASQUAL RESERVATION

December 28, 2020

TRIBAL COUNCIL

Stephen W. Cope
Chairman

Justin Quis Quis
Vice Chairman

Tilda M. Green
Secretary-Treasurer

David L. Toler
Councilman

Joe Chavez
Councilman

Ryan Banuelos
South Coast Air Quality Management District
21865 Copley Drive,
Diamond Bar, California 91765

RE: Proposed Rule 2305 Warehouse Indirect Source Rules -Salton Sea Air Basin

Sent via E-mail- Due to COVID -19

Dear Mr. Banuelos,,

The San Pasqual Band of Mission Indians Tribal Historic Preservation Office has received your notification of the project referenced above. This letter constitutes our response on behalf of David L. Toler THPO Officer.
We have consulted our maps and determined that the project as described is not within the boundaries of the recognize San Pasqual Indian Reservation. The project is within the boundaries of the territory that the tribe considers its Traditional Use Area (TUA). Therefore, we request to be kept in the information loop as the project progresses and would appreciate being maintained on the receiving list for project updates, reports of investigations, and/or any documentation that might be generated regarding previously reported or newly discovered sites. Further, we may recommend archaeological monitoring pending the results of site surveys and records searches associated with the project. If the project boundaries are modified to extend beyond the currently proposed limits, we request updated information and the opportunity to respond to your changes. Also, San Pasqual Band of Mission Indians can provide Native American monitoring if needed for this project.

We appreciate involvement with your initiative and look forward to working with you on future efforts. If you have questions or need additional information, please do not hesitate to contact me by telephone 760-651-5142 or by e-mail at Thpo@sanpasqualtribe.org please CC: Angelinag@sanpasqualtribe.org thank you.

Respectfully,

Angelina Gutierrez

Angelina Gutierrez
Tribal Historic Preservation Office, Monitor Supervisor
San Pasqual Band of Mission Indians

PHONE 760-749-3200 • FAX 760-749-3876 • WWW.SANPASQUALBANDOFMISSIONINDIANS.ORG

Comment Letter #7 – Holland & Knight

Holland & Knight

50 California Street, Suite 2800 | San Francisco, CA 94111 | T | F 415.743.6910
Holland & Knight LLP | www.hklaw.com

Marne S. Sussman
+1 415-743-6987
Marne.Sussman@hklaw.com

December 14, 2020

Via E-mail (rbanuelos@aqmd.gov)

Ryan Bañuelos
Planning/CEQA
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: CEQA Scoping Comments for Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program; and Proposed Rule 316 – Fees for Regulation XXIII

Dear Mr. Bañuelos:

Our client, the California Trucking Association ("CTA"), appreciates the opportunity to submit comments on the scope and content of the South Coast Air Quality Management District's ("SCAQMD" or "District") Environmental Assessment ("EA") for the Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program; and Proposed Rule 316 – Fees For Regulation XXIII (collectively, the "Proposed Rules").

Many members of the CTA will be directly regulated by the Proposed Rules and many others will be compelled to assist the covered warehouses in achieving compliance with the Proposed Rules. This will require substantial capital investment by CTA members and will have far reaching environmental and economic effects. To that end, CTA respectfully requests that SCAQMD give the consequences of its proposed action a thorough examination. 7-1

I. Statement of Interest.

"Truck driver" is one of the most common jobs in California. There are approximately 550,000 commercial vehicles registered in California and an additional 1.5 million commercial vehicles registered in other states to operate in California. Most of these vehicles are owned by small businesses: 50% of all trucks are owned by fleets of 3 or fewer trucks and 80% of all trucks are owned by fleets with fewer than 50 trucks.

Atlanta | Austin | Boston | Charlotte | Chicago | Dallas | Denver | Fort Lauderdale | Houston | Jacksonville | Lakeland
Los Angeles | Miami | New York | Orlando | Philadelphia | Portland | San Francisco | Stamford | Tallahassee | Tampa
Tysons | Washington, D.C. | West Palm Beach

Comment Letter #7 (Continued) – Holland & Knight

The CTA is the largest state trade association representing trucking in the United States. Its 1800 members include both large and small fleets with an average fleet size of 20 trucks. CTA members are actively participating in the development, piloting, and demonstration of alternative fuel and electric-drive capable vehicles. In fact, some member fleets have been working to bring electric-drive vehicles to market for nearly ten years. The CTA continues to support a coordinated and measured transition to alternative fuel and electric-drive capable vehicles. 7-1 cont.

II. Adequate Project Description.

The EA must include a project description that adequately describes and analyzes the effects of the compliance actions of covered entities if the Proposed Rules are adopted. As the Initial Study explains, "The purpose of PR 2305 is to facilitate NOx and PM, including DPM, emission reductions associated with warehouses and the mobile sources attracted to applicable warehouses in order to assist in meeting state and federal air quality standards for ozone and fine particulate matter. Implementation of the proposed project is expected to result in NOx and PM, including DPM, emission reductions and reduced associated public health impacts from warehouse activities which will vary depending upon the implementation measures employed." However, the Initial Study fails to adequately discuss the reasonably foreseeable compliance responses and their effects.

A project description that omits integral components of the project may result in an EIR that fails to disclose all of the impacts of the project. *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 829 (project description for sand and gravel mine omitted water pipelines serving project); *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 80. The "project" is "the whole of an action" that may result in either a direct physical environmental change or a reasonably foreseeable indirect change. CEQA Guidelines § 15378; *Habitat & Watershed Caretakers v. City of Santa Cruz* (2013) 213 Cal.App.4th 1277, 1297; *Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1220. Project descriptions have been found inadequate when they failed to include discussion of necessary expansions to accommodate the contemplated project. *See San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994 27 Cal.App.4th 713 (project description inadequate when it failed to discuss sewer lines and wastewater treatment expansion necessary for the contemplated housing development); *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 830 (project description for sand and gravel mine inadequate when it failed to describe or analyze the construction of water pipelines needed for operations); *Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397 (project description for oil well inadequate for failure to describe or analyze associated pipeline). 7-2

The Proposed Rules rely on actions by covered entities to: utilize zero emission ("ZE") and near zero emission ("NZE") trucks for their warehouse operator fleets, control ZE/NZE truck visits, utilize ZE yard trucks, install onsite ZE charging or fueling infrastructure, install and use onsite solar panels, and install high efficiency filters at sensitive receptors. However, the magnitude of the compliance response is not adequately described in the project description. The Notice of 7-3

Comment Letter #7 (Continued) – Holland & Knight

Preparation contains a version of the Proposed Rules that calculates the compliance obligation of covered entities based in part on an undefined "stringency factor." The stringency factor is described as "a dimensionless multiplier that determines how many Points an operator needs to earn." But without even a range of potential values, it is impossible to adequately describe or analyze the full scope of compliance responses that will be required. Even in the absence of a full description or analysis of the scale, it is clear that the reasonably foreseeable compliance responses to the Proposed Rules would likely result in an increase in manufacturing and associated facilities to increase the supply of ZE/NZE trucks, along with construction of new hydrogen fueling stations and electric vehicle charging stations to support ZE/NZE operations and associated increases in hydrogen fuel supply and transportation. Increased deployment of ZE/NZE trucks would require an increase in production of electricity and hydrogen fuel and result in associated increases in lithium and platinum mining and exports from source countries or other states. This would also result in increased rates of disposal of lithium batteries and hydrogen fuel cells and also increased need for facilities capable of recycling these batteries and fuel cells. Long-term operation of new manufacturing plants, stations, and recycling facilities would often include the presence of workers; movement of automobiles, trucks, and heavy equipment; and operation of stationary equipment. None of these reasonably foreseeable consequences of compliance actions are disclosed in the Initial Study. This must be corrected in the EA. 7-3 cont.

A. Increases in Grid Capacity.

While the installation of vehicle charging stations and onsite solar panels will presumably occur in developed industrial areas, the supporting infrastructure for the Proposed Rules will require the development of offsite resources, including new power plants, energy storage, and other utility infrastructure to support the significant load that ZE trucks add to the electrical grid. Charging just ten ZE vehicles during "off peak" hours increases the "off peak" load to "peak" or higher levels. Local distribution grid infrastructure could be significantly impacted by the Proposed Rules and would require expansive upgrades. According to E3, a consultant for the California Energy Commission, California's electrical demand will increase from 300,000 gigawatt hours ("GWh") under present conditions to over 500,000 GWh by 2050. To meet the state's ambitious climate goals, nearly all of this new demand would be met by wind, solar and battery storage.[1] This would require the construction of 109,834 megawatts ("MW") of new solar capacity (a nearly 900 percent increase from current levels), 14,585 MW of new wind capacity (more than a 200 percent increase from current levels), and 73,933 MW of new available grid battery storage (a 15,560 percent increase from the current 478 MW).[2] These dramatic increases in capacity come with correspondingly dramatic impacts. The Proposed Rules include the actions 7-4

[1] Ming et al., Long-Run Resource Adequacy under Deep Decarbonization Pathways for California, June 2019 https://www.ethree.com/wp-content/uploads/2019/06/E3_Long_Run_Resource_Adequacy_CA_Deep-Decarbonization_Final.pdf.
[2] Ming et al., Long-Run Resource Adequacy under Deep Decarbonization Pathways for California, June 2019 https://www.ethree.com/wp-content/uploads/2019/06/E3_Long_Run_Resource_Adequacy_CA_Deep-Decarbonization_Final.pdf.

Comment Letter #7 (Continued) – Holland & Knight

necessary to comply, which increase the demand for electrical generation and transmission and which will have potentially significant impacts on the environment including in areas such as air quality, greenhouse gases, biological resources, land use, and agricultural resources. The District must describe and analyze the compliance actions and their foreseeable effects as part of the project description of the Proposed Rules. 7-4 cont.

B. Increased Need for Lithium Extraction.

A key component of the Proposed Rules is incentivizing conversion to ZE vehicles, which rely on lithium batteries. This compliance action is a component of the "project as a whole," and it must be described and its impacts disclosed. By increasing the demand for lithium and other ores, a foreseeable consequence of the Proposed Rules is more extraction.

Lithium can be extracted in one of two ways—from hard rock mining or from brines. Mining of hard rock would require the use of conventional mining practices including the creation of underground mines and open pits. Collecting lithium from lake brines and clays requires the pumping of salty groundwater into lagoons where it undergoes evaporation producing salts containing lithium compounds. Both hard rock mining and brine evaporation cause significant environmental harm, including potential harm to biological resources through reduction in sensitive habitat, interference with wildlife corridors, loss of special-status species, and potential conflicts with a habitat conservation plan or natural community conservation plan. 7-5

Extraction of lithium also increases the risk of hazardous releases through leaching, spills or air emissions that can harm both human health and the environment. Water contamination associated with lithium ore extraction could have acute and adverse effects to sensitive habitat and sensitive species. While the vast majority of lithium production occurs outside of California, the California Energy Commission recently funded efforts to extract lithium from areas around the Salton Sea. As demand for lithium increases around the world, extraction activities are more likely to take place in sensitive environments in California and the United States. By inducing demand for lithium, the Proposed Rules at least cumulatively contribute to this environmental harm. Because an increase in lithium demand is a reasonable consequence of the behaviors the District seeks to induce, the District must evaluate these consequences.

C. Disposal Facilities.

Similarly, the reasonable compliance actions taken pursuant to the Rule will increase the demand for specialized disposal facilities. Again, these compliance actions are part of the "project as a whole" and their effects must be described. The Proposed Rules will increase the number of batteries and fuel cells in the District and specialized disposal facilities will be needed to handle these materials. SCAQMD must analyze whether there is sufficient capacity in the existing hazardous waste system to accommodate the waste that is a reasonably foreseeable result of the Proposed Rules. If there is not, then SCAQMD must analyze the likely effects from the need for increased capacity. 7-6

Comment Letter #7 (Continued) – Holland & Knight

In order to comply with CEQA, the EA must adequately describe and analyze the project as a whole, including the reasonably foreseeable consequences of project approval. This includes not only the foreseeable compliance activities undertaken by covered entities, but also the necessary infrastructure to support those activities. The effects of these reasonably foreseeable consequences may affect agricultural and biological resources through land use conversions, geologic and hydrologic impacts due to increased lithium extraction activities, substantial increases in the demand for water supply, wastewater treatment, storm water drainage, energy, and solid waste services. In light of these sweeping effects, it is inappropriate for the District to scope these issues out of the EA. 7-7

III. Environmental Impacts.

CTA strongly supports a comprehensive evaluation of the impacts of the Proposed Rules, including a lifecycle analysis of the reasonably foreseeable consequences of the Proposed Rules. SCAQMD has identified the issues of (1) air quality and greenhouse gases, (2) energy, and (3) transportation for further evaluation in the Draft EA. CTA agrees that these topics merit robust discussion and also encourages SCAQMD to evaluate the effects of the reasonably foreseeable compliance responses. 7-8

A. Air Quality and Greenhouse Gas Emissions.

The Proposed Rules encourage the premature transition from conventional to ZE/NZE trucks without considering the consequences outside of the District. The Proposed Rules compel the deployment of new ZE/NZE vehicles before the end of the useful life of the existing conventional fleet. Because these vehicles continue to be assets, they are unlikely to be retired and will instead be transitioned to other uses or jurisdictions. While the Proposed Rules may reduce truck emissions in the District, it is highly foreseeable that these emissions will merely migrate elsewhere. While more difficult to move outside of the District's jurisdiction, it is also likely that the Proposed Rules will force many warehouses to relocate outside of the SCAQMD. Again, while this may reduce the emissions in the District itself, these emissions are ultimately reshuffled rather than eliminated. The effects of the Proposed Rules on air quality cannot be considered in a vacuum. The District must realistically evaluate any emission reductions from the Proposed Rules in light of the significant and foreseeable leakage outside of its jurisdiction. 7-9

The District must also evaluate any emission reductions from the Proposed Rules against increased emissions from electricity generation. While the Proposed Rules anticipate the use of on-site solar panels, these are unlikely to fully offset the demand created by compliance actions. Until greater renewable capacity is realized, grid electricity will continue to be generated through fossil fuels. In the last two years, almost 60% of electricity supplied by Southern California Edison was generated from non-renewable sources. The Proposed Rules will force the transition to ZE/NZE vehicles and the District must analyze the greater emissions generated by this increased electrical demand.

Comment Letter #7 (Continued) – Holland & Knight

Similarly, increased demand for lithium batteries could increase production, lithium mining, and exports from source countries or other states, which requires energy for mineral extraction, processing, and transport, all of which may diminish the benefits of the Proposed Rules. The EA must contain a full discussion of the lifecycle of the various fuels used in ZE/NZE vehicles to provide full disclosure to the public and decisionmakers. 7-10

B. Energy.

Increased deployment of ZE/NZE vehicles would place greater demand on the existing electricity grid. As discussed above, this will necessitate additional grid capacity to accommodate demand. For example, Southern California Edison predicts 26 million light-duty electric vehicles will be on the road in California in 2045 and transportation electrification will increase electric load by 130 terawatt-hours, accounting for more than one-third of the grid-served load. As of 2019, Southern California Edison had only 60 terawatt-hours of net generation. As explained above, even ten ZE vehicles during "off peak" hours will increase the "off peak" load to "peak" or higher levels. One hundred medium duty e-trucks charging at the same time demand 1.5 megawatts of electricity and approximately 3,000 warehouses will be subject to the Proposed Rules. The EA must assess the impacts of the Proposed Rules on the state's energy infrastructure.

While pilot projects have been successfully deployed using ZE/NZE vehicles, this success reflects the trucking industry's well-established understanding of existing fueling suppliers. To date, existing demonstration and deployment has been accomplished on a smaller scale and is typically limited to prevent cost-prohibitive utility upgrades. Increasing utility interaction as electric-capable vehicles scale to the levels envisioned in the Proposed Rules will result in potential misalignments between utility policy and regulation and fleet operations. Broader deployment will necessitate extensive coordination with utilities. SCAQMD must include an analysis of the impacts of reasonably foreseeable compliance activities on the utility grid. 7-11

The EA must also assess how the Proposed Rules cumulatively contribute to impacts to the State's energy system. Many municipalities and regulators have advanced electrification initiatives which have the potential to cumulatively overwhelm existing generation and transmission capacity. The cumulative effect of these initiatives is to push the state into a high electrification scenario without the infrastructure necessary to support the new load. The EA must analyze the Proposed Rules' cumulative contribution to this impact in light of the many varied electrification initiatives being adopted.

C. Transportation.

The Proposed Rules create significant uncertainty in commercial transportation. By compelling the early transition to ZE/NZE vehicles, the Proposed Rules drive rapid and premature fleet turnover for high-cost ZE/NZE vehicles while imposing the uncertain but often high costs of electricity and hydrogen fuel on the logistics sector. Additionally, while the Proposed Rules may incentivize the transition to ZE/NZE vehicles in the SCAQMD's jurisdiction, the Initial Study 7-12

Comment Letter #7 (Continued) – Holland & Knight

does not appear to have considered whether there is sufficient charging infrastructure to support these fleets outside of the District. Additionally, as California responds to increasing wildfire threats, public safety power shutoff ("PSPS") events have become increasingly common. The EA should consider the interaction between expedited electrification and PSPS events. It is reasonably foreseeable that the Proposed Rules will lead to significant disruptions to freight transportation in light of these shut off events.

While impacts to the State's logistics infrastructure are not specifically listed as impacts in Appendix G, the Appendix "is only an illustrative checklist and does not set forth an exhaustive list of potentially significant environmental impacts under CEQA or standards of significance for those impacts." *City of San Diego v California State University* (2011) 201 Cal.App.4th. 1134, 1191; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1108-1111. "Also, the lack of precise quantification or criteria for determining whether an environmental effect is 'significant' under CEQA does not excuse a lead agency from using its best efforts to evaluate whether an effect is significant. *City of San Diego*, 201 Cal.App.4th at 1191; *Berkeley Keep Jets Over the Bay Com. v. Board of Port Cmrs.* (2001) 91 Cal.App.4th 1344, 1370. The District must comprehensively evaluate the impacts to infrastructure in its EA. 7-12 cont.

IV. Conclusion.

The many impacts that can be expected from the Proposed Rules, as explained throughout this document, necessitate a great deal of caution in the approvals process. CTA urges SCAQMD to pursue the studies and recommendations in this document as well as those contained in the suggestions of the numerous other commenters at public scoping meetings and in written comments to the District. 7-13

Sincerely yours,

HOLLAND & KNIGHT LLP

Marne S. Sussman

Marne S. Sussman

cc: Chris Shimoda

Responses to Comment Letter #7 – Holland & Knight

Comment 7-1

Dear Mr. Bañuelos:

Our client, the California Trucking Association ("CTA"), appreciates the opportunity to submit comments on the scope and content of the South Coast Air Quality Management District's ("SCAQMD" or "District") Environmental Assessment ("EA") for the Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program; and Proposed Rule 316 – Fees For Regulation XXIII (collectively, the "Proposed Rules").

Many members of the CTA will be directly regulated by the Proposed Rules and many others will be compelled to assist the covered warehouses in achieving compliance with the Proposed Rules. This will require substantial capital investment by CTA members and will have far reaching environmental and economic effects. To that end, CTA respectfully requests that SCAQMD give the consequences of its proposed action a thorough examination. 7-1

I. Statement of Interest.

"Truck driver" is one of the most common jobs in California. There are approximately 550,000 commercial vehicles registered in California and an additional 1.5 million commercial vehicles registered in other states to operate in California. Most of these vehicles are owned by small businesses: 50% of all trucks are owned by fleets of 3 or fewer trucks and 80% of all trucks are owned by fleets with fewer than 50 trucks.

The CTA is the largest state trade association representing trucking in the United States. Its 1800 members include both large and small fleets with an average fleet size of 20 trucks. CTA members are actively participating in the development, piloting, and demonstration of alternative fuel and electric-drive capable vehicles. In fact, some member fleets have been working to bring electric-drive vehicles to market for nearly ten years. The CTA continues to support a coordinated and measured transition to alternative fuel and electric-drive capable vehicles. 7-1 cont.

Response to Comment 7-1

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. No further response is necessary.

Comment 7-2

II. Adequate Project Description.

The EA must include a project description that adequately describes and analyzes the effects of the compliance actions of covered entities if the Proposed Rules are adopted. As the Initial Study explains, "The purpose of PR 2305 is to facilitate NOx and PM, including DPM, emission reductions associated with warehouses and the mobile sources attracted to applicable warehouses in order to assist in meeting state and federal air quality standards for ozone and fine particulate matter. Implementation of the proposed project is expected to result in NOx and PM, including DPM, emission reductions and reduced associated public health impacts from warehouse activities which will vary depending upon the implementation measures employed." However, the Initial Study fails to adequately discuss the reasonably foreseeable compliance responses and their effects.

A project description that omits integral components of the project may result in an EIR that fails to disclose all of the impacts of the project. *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 829 (project description for sand and gravel mine omitted water pipelines serving project); *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 80. The "project" is "the whole of an action" that may result in either a direct physical environmental change or a reasonably foreseeable indirect change. CEQA Guidelines § 15378; *Habitat & Watershed Caretakers v. City of Santa Cruz* (2013) 213 Cal.App.4th 1277, 1297; *Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1220. Project descriptions have been found inadequate when they failed to include discussion of necessary expansions to accommodate the contemplated project. *See San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994 27 Cal.App.4th 713 (project description inadequate when it failed to discuss sewer lines and wastewater treatment expansion necessary for the contemplated housing development); *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 830 (project description for sand and gravel mine inadequate when it failed to describe or analyze the construction of water pipelines needed for operations); *Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397 (project description for oil well inadequate for failure to describe or analyze associated pipeline). 7-2

Response to Comment 7-2

CEQA Guidelines Section 15124 requires the description of the project contains information that should not supply extensive detail beyond that needed for evaluation and review of the environmental impact. South Coast AQMD Rule 110, which implements the South Coast AQMD's certified regulatory program, does not impose any greater requirements for the description of the project in an EA than is required for an EIR under CEQA. To comply with CEQA Guidelines Section 15124 and South Coast AQMD Rule 110, Chapter 2, *Proposed Project* includes specific information about the proposed project such as the project location, project background, project objectives, project description, a summary of warehouses that would be subject to the proposed project, and WAIRE Menu actions and investments technology overview.

CEQA Guidelines Section 15144 states that drafting an EIR or preparing a Negative Declaration necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that *it reasonably can* (*emphasis added*). The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR (CEQA Guidelines Section 15146). Chapter 4, *Environmental Impact Analysis and Mitigation Measures* includes an analysis of the proposed project's potential direct, indirect, and cumulative environmental impacts from compliance responses on aesthetics, agriculture and forestry resources, air quality and greenhouse gas (GHG) emissions, biological resources, cultural resources, energy, geology and

soils, hazardous materials and solid and hazardous waste, hydrology and water quality, mineral resources, noise, transportation, and utilities and service systems.

Comment 7-3

The Proposed Rules rely on actions by covered entities to: utilize zero emission ("ZE") and near zero emission ("NZE") trucks for their warehouse operator fleets, control ZE/NZE truck visits, utilize ZE yard trucks, install onsite ZE charging or fueling infrastructure, install and use onsite solar panels, and install high efficiency filters at sensitive receptors. However, the magnitude of the compliance response is not adequately described in the project description. The Notice of Preparation contains a version of the Proposed Rules that calculates the compliance obligation of covered entities based in part on an undefined "stringency factor." The stringency factor is described as "a dimensionless multiplier that determines how many Points an operator needs to earn." But without even a range of potential values, it is impossible to adequately describe or analyze the full scope of compliance responses that will be required. Even in the absence of a full description or analysis of the scale, it is clear that the reasonably foreseeable compliance responses to the Proposed Rules would likely result in an increase in manufacturing and associated facilities to increase the supply of ZE/NZE trucks, along with construction of new hydrogen fueling stations and electric vehicle charging stations to support ZE/NZE operations and associated increases in hydrogen fuel supply and transportation. Increased deployment of ZE/NZE trucks would require an increase in production of electricity and hydrogen fuel and result in associated increases in lithium and platinum mining and exports from source countries or other states. This would also result in increased rates of disposal of lithium batteries and hydrogen fuel cells and also increased need for facilities capable of recycling these batteries and fuel cells. Long-term operation of new manufacturing plants, stations, and recycling facilities would often include the presence of workers; movement of automobiles, trucks, and heavy equipment; and operation of stationary equipment. None of these reasonably foreseeable consequences of compliance actions are disclosed in the Initial Study. This must be corrected in the EA.

7-3

7-3 cont.

Response to Comment 7-3

While there is a list of actions or investments a warehouse operator may choose to comply with the proposed project (included as Appendix A of the EA), it is speculative to determine and describe the magnitude of the compliance response in the project description. Warehouse operators may earn WAIRE Points through a Custom WAIRE Plan specific to their operation that satisfy prescribed performance metrics. In lieu of satisfying or to supplement earned WAIRE Points to meet the Warehouse Points Compliance Obligation (WPCO) within each compliance year, a warehouse operator may choose to pay an optional mitigation fee to the South Coast AQMD that would be used in a mitigation program to achieve the emissions reductions. The selection of specific WAIRE Menu actions or WPCO compliance strategy (in the form of WAIRE Menu actions, a Custom WAIRE Plan, and/or the payment of mitigation fee) cannot be precisely forecasted at this time. The unknown is also driven by and dependent upon warehouse-specific factors, including, for example, the physical configuration of a warehouse and space available for EV charging infrastructure onsite. To account for the uncertainty, the analysis of environmental impacts for the proposed project was analyzed using the currently proposed rule stringency factor of 0.0025 WAIRE Points per Weighted Annual Truck Trip (WATT) which was presented and discussed in the Warehouse ISR Working Group Meeting held on December 17, 2020[1]. For more information on the currently proposed rule stringency

[1] South Coast AQMD, December 17, 2020, Warehouse ISR Working Group. Accessed on December, 18, 2020. https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/warehouse-isr-presentation-121720.pdf

factor, please see Chapters 2 and 3 of the Preliminary Draft Staff Report[2] as well as Chapter 2, *Proposed Project*, in the EA.

As analyzed and disclosed in the NOP/IS, potentially significant construction impacts related to air quality and GHG emissions, energy, and transportation may occur from, for example, the installation of zero-emissions (ZE) charging/fueling infrastructure, and potentially significant operational impacts may also occur on air quality and GHG emissions, energy, and transportation from using ZE and near-zero emissions (NZE) trucks and ZE yard trucks (e.g., increased energy usage). These impacts were further analyzed in Chapter 4 of this EA. Although the NOP/IS concluded that the proposed project is expected to result in less than significant impacts on hazards and hazardous materials and solid and hazardous waste, the EA analyzes the environmental issues associated with increased disposal of batteries and hydrogen fuel cells and their potential impacts on the battery recycling infrastructure in Chapter 4.3.4, *Operational Impacts in Excess of Capacity of Local Recycling Infrastructure*. Chapter 4.3, *Hazardous Materials and Solid and Hazardous Waste*, also analyzes the environmental issues associated with construction waste and transport, use, and disposal of liquefied natural gas (LNG) fuel. Additionally, the NOP/IS concluded that the proposed project is expected to result in less than significant impacts on aesthetics, agricultural and forestry, biological resources, cultural and tribal resources, geology and soils, hydrology and water quality (including water supply, wastewater treatment, stormwater drainage), land use and planning, mineral resources, noise, population and housing, public services, recreation, and utilities and service systems; however, this EA analyzes the indirect environmental impacts to these areas to the extent that they may be impacted by potential future construction of new manufacturing and recycling facilities, and improvements to the electrical grid in Chapter 4.5, *Other Impact Areas*. Please also see *Executive Summary* for the potential environmental impacts that were found to be less than significant.

Consistent with CEQA Guidelines Sections 15204, 15144, and 15146, the EA appropriately and conservatively analyzes the various potential compliance actions as a result of the proposed project. It is not feasible to determine which compliance actions each of the 2,902 warehouse operators will choose to comply with the proposed project at this time without undue speculation. South Coast AQMD used a good-faith effort to develop 18 WAIRE Points scenarios to represent a wide range of potential compliance options and modeled each of them using the available technical information as discussed in the Draft WAIRE Menu Technical Report[3], data on the logistics industry and goods movement from the Southern California Association of Governments (SCAG) and CALSTART[4], and the modeling tools such as EMFAC2017[5] and the California Air Resources Board (CARB) META tool[6]. The WAIRE Points scenarios, which provide "book-ends"

[2] South Coast AQMD, January, 15, 2021, Preliminary Draft Staff Report. http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/preliminary-draft-staff-report.pdf

[3] South Coast AQMD, March 3, 2020, Draft WAIRE Menu Technical Report. Accessed on December, 18, 2020. https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/waire-menu-technical-report_draft_3-3-20.pdf

[4] CALSTART, Technical Memorandum on Truck Fleets that Serve Warehouses in SCAQMD Jurisdiction. http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/iec_pr-2305-warehouse-relocation-report-(12-23-20).pdf

[5] California Air Resources Board, EMFAC. Accessed on December, 18, 2020. https://arb.ca.gov/emfac/

[6] California Air Resources Board, MSEI - Modeling Tools. Accessed on December, 18, 2020. https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-modeling-tools

of the range of potential environmental impacts associated with the proposed project, formed the conceptual and technical basis for the environmental impact analysis in Chapter 4, *Environmental Impact Analysis and Mitigation Measures*. The potential long-term environmental impacts from implementing the WAIRE Program are discussed in Chapter 6, *Other CEQA Considerations*. It is important to note that CEQA does not require a full lifecycle analysis of potential environmental effects. Please see Chapter 4.1.1.3, *Lifecycle Analysis* for more information.

Comment 7-4

A. Increases in Grid Capacity.

While the installation of vehicle charging stations and onsite solar panels will presumably occur in developed industrial areas, the supporting infrastructure for the Proposed Rules will require the development of offsite resources, including new power plants, energy storage, and other utility infrastructure to support the significant load that ZE trucks add to the electrical grid. Charging just ten ZE vehicles during "off peak" hours increases the "off peak" load to "peak" or higher levels. Local distribution grid infrastructure could be significantly impacted by the Proposed Rules and would require expansive upgrades. According to E3, a consultant for the California Energy Commission, California's electrical demand will increase from 300,000 gigawatt hours ("GWh") under present conditions to over 500,000 GWh by 2050. To meet the state's ambitious climate goals, nearly all of this new demand would be met by wind, solar and battery storage.[1] This would require the construction of 109,834 megawatts ("MW") of new solar capacity (a nearly 900 percent increase from current levels), 14,585 MW of new wind capacity (more than a 200 percent increase from current levels), and 73,933 MW of new available grid battery storage (a 15,560 percent increase from the current 478 MW).[2] These dramatic increases in capacity come with correspondingly dramatic impacts. The Proposed Rules include the actions

7-4

[1] Ming et al., Long-Run Resource Adequacy under Deep Decarbonization Pathways for California, June 2019 https://www.ethree.com/wp-content/uploads/2019/06/E3_Long_Run_Resource_Adequacy_CA_Deep-Decarbonization_Final.pdf.
[2] Ming et al., Long-Run Resource Adequacy under Deep Decarbonization Pathways for California, June 2019 https://www.ethree.com/wp-content/uploads/2019/06/E3_Long_Run_Resource_Adequacy_CA_Deep-Decarbonization_Final.pdf.

necessary to comply, which increase the demand for electrical generation and transmission and which will have potentially significant impacts on the environment including in areas such as air quality, greenhouse gases, biological resources, land use, and agricultural resources. The District must describe and analyze the compliance actions and their foreseeable effects as part of the project description of the Proposed Rules.

7-4 cont.

Response to Comment 7-4

Chapter 4.2, *Energy* analyzes the proposed project's potential energy impacts from construction activities undertaken to comply with the proposed project and from increases in electricity from electric vehicle (EV) trucks, installation of EV chargers to charge electric vehicles installation of high-efficiency filter systems, and purchase and use of ZE yard trucks in the South Coast AQMD region. Impacts to electricity providers are also analyzed and discussed in Chapter 4.2.3.2.5, *Impacts to Electricity Providers*. The proposed project's potential air quality and GHG emissions impacts are analyzed in Chapter 4.1, *Air Quality and Greenhouse Gas Emissions*. Additionally, the potential significant irreversible changes that would be caused by the proposed project from increased grid capacity are analyzed in Chapter 6, *Other CEQA Considerations*.

It is important to note that implementation of the proposed project relies on efforts by other sectors such as the utilities sector which has engaged in the rulemaking process for the proposed project. The proposed project will contribute towards accelerating the use of ZE and NZE trucks and

infrastructure, and at the same time planning efforts and actions by public and private partners, including the California Energy Commission (CEC), the California Public Utilities Commission (CPUC), and Southern California Edison Energy have shared responsibilities and make important contributions towards the state's ZE future. It is also important to note that South Coast AQMD intends to conduct ongoing monitoring, review, and reporting on the performance of the WAIRE Program. These "check-ins" will provide useful information on implementation details and help identify effects on warehouses subject to the WAIRE Program.

Although Chapter 2 of the IS concluded that the proposed project's potential impacts on agricultural and forestry resources, biological resources, and land use and planning would be less than significant, the EA analyzes the indirect environmental impacts to these areas to the extent that they may be impacted by potential future construction of new manufacturing and recycling facilities, and improvements to the electrical grid in Chapter 4.5, *Other Impact Areas*. Please also see *Executive Summary* for the potential environmental impacts that were found to be less than significant.

Comment 7-5

B. Increased Need for Lithium Extraction.

A key component of the Proposed Rules is incentivizing conversion to ZE vehicles, which rely on lithium batteries. This compliance action is a component of the "project as a whole," and it must be described and its impacts disclosed. By increasing the demand for lithium and other ores, a foreseeable consequence of the Proposed Rules is more extraction.

Lithium can be extracted in one of two ways—from hard rock mining or from brines. Mining of hard rock would require the use of conventional mining practices including the creation of underground mines and open pits. Collecting lithium from lake brines and clays requires the pumping of salty groundwater into lagoons where it undergoes evaporation producing salts containing lithium compounds. Both hard rock mining and brine evaporation cause significant environmental harm, including potential harm to biological resources through reduction in sensitive habitat, interference with wildlife corridors, loss of special-status species, and potential conflicts with a habitat conservation plan or natural community conservation plan. 7-5

Extraction of lithium also increases the risk of hazardous releases through leaching, spills or air emissions that can harm both human health and the environment. Water contamination associated with lithium ore extraction could have acute and adverse effects to sensitive habitat and sensitive species. While the vast majority of lithium production occurs outside of California, the California Energy Commission recently funded efforts to extract lithium from areas around the Salton Sea. As demand for lithium increases around the world, extraction activities are more likely to take place in sensitive environments in California and the United States. By inducing demand for lithium, the Proposed Rules at least cumulatively contribute to this environmental harm. Because an increase in lithium demand is a reasonable consequence of the behaviors the District seeks to induce, the District must evaluate these consequences.

Response to Comment 7-5

The proposed project is intended to accelerate the use of ZE trucks and yard trucks that operate at warehouses in the South Coast AQMD region. The IS concluded that the proposed project is expected to result in less than significant impacts on hazardous materials and solid and hazardous waste and mineral resources. However, the EA analyzes the environmental issues associated with the increased disposal of batteries and hydrogen fuel cells and their potential impacts on the capacity of local recycling infrastructure in Chapter 4.3.4, *Operational Impacts in Excess of Capacity of Local Recycling Infrastructure*. Chapter 4.3, *Hazardous Materials and Solid and*

Hazardous Waste, also analyzes the environmental issues associated with construction waste and transport, use, and disposal of LNG fuel. The EA also analyzes the indirect impacts associated with the potential increase in mineral extraction and impacts on mineral resources in Chapter 4.5, *Other Impact Areas*. Additionally, the EA considers the environmental issues associated with mineral resources and increased disposal of batteries and hydrogen fuel cells in Chapter 6, *Other CEQA Considerations*, as required by CEQA Guidelines Section 15126(c).

It is important to note that implementation of the proposed project relies on efforts by other sectors such as the waste management sector. The proposed project will contribute towards accelerating the use of ZE and NZE trucks and infrastructure, and at the same time regulations and policies pertaining to the receiving and recycling of lithium-ion vehicle batteries are needed. Please see Chapter 4.3.4, *Operational Impacts in Excess of the Capacity of Local Recycling Infrastructure* for more information. Chapter 4.3, *Hazardous Materials and Solid and Hazardous Waste*, also analyzes the environmental issues associated with construction waste and transport, use, and disposal of LNG fuel.

Comment 7-6

C. Disposal Facilities.

Similarly, the reasonable compliance actions taken pursuant to the Rule will increase the demand for specialized disposal facilities. Again, these compliance actions are part of the "project as a whole" and their effects must be described. The Proposed Rules will increase the number of batteries and fuel cells in the District and specialized disposal facilities will be needed to handle these materials. SCAQMD must analyze whether there is sufficient capacity in the existing hazardous waste system to accommodate the waste that is a reasonably foreseeable result of the Proposed Rules. If there is not, then SCAQMD must analyze the likely effects from the need for increased capacity. 7-6

Response to Comment 7-6

Although the IS concluded that the proposed project is expected to result in less than significant impacts on hazards and hazardous materials and solid and hazardous waste, the EA analyzes the environmental issues associated with the increased disposal of batteries and hydrogen fuel cells and their potential impacts on the capacity of local recycling infrastructure in Chapter 4.3.4, *Operational Impacts in Excess of the Capacity of Local Recycling Infrastructure*. Chapter 4.3, *Hazardous Materials and Solid and Hazardous Waste*, also analyzes the environmental issues associated with construction waste and transport, use, and disposal of LNG fuel. Additionally, the EA considers the environmental issues associated with mineral resources and increased disposal of batteries and hydrogen fuel cells in Chapter 6, *Other CEQA Considerations*, as required by CEQA Guidelines Section 15126(c).

Implementation of the proposed project relies on efforts by other sectors such as the waste management sector. The proposed project will contribute its share towards accelerating the use of ZE and NZE trucks and infrastructure, and at the same time regulations and policies pertaining to the receiving and recycling of lithium-ion vehicle batteries are also needed (see Chapter 4.3.4, *Operational Impacts in Excess of the Capacity of Local Recycling Infrastructure*). It should also be noted that if and when landfill or recycling facilities expand their capacity, those expansions would likely be subject to project-level environmental review under CEQA by the appropriate lead agency.

Comment 7-7

> In order to comply with CEQA, the EA must adequately describe and analyze the project as a whole, including the reasonably foreseeable consequences of project approval. This includes not only the foreseeable compliance activities undertaken by covered entities, but also the necessary infrastructure to support those activities. The effects of these reasonably foreseeable consequences may affect agricultural and biological resources through land use conversions, geologic and hydrologic impacts due to increased lithium extraction activities, substantial increases in the demand for water supply, wastewater treatment, storm water drainage, energy, and solid waste services. In light of these sweeping effects, it is inappropriate for the District to scope these issues out of the EA. 7-7

Response to Comment 7-7

As discussed in Chapter 2, *Proposed Project*, the proposed project consists of PR 2305 and PR 316. The focus of the environmental impacts analysis in the EA is on potential regional-scale impacts associated with implementation of the WAIRE Program as a whole. The proposed project includes approximately 3,320 warehouses that would be subject to the WAIRE Program, including 2,902 warehouse that would likely be required to earn WAIRE Points. Because the proposed project and the EA are from a regional perspective and is programmatic in nature, it does not include site-specific analysis of any warehouse that would be regulated by the proposed project. Chapter 4, *Environmental Impact Analysis and Mitigation Measures* analyzes the proposed project's environmental impacts to the level that they can be assessed without undue speculation (CEQA Guidelines Sections 15145 and 15146).

As discussed in Chapter 4.0.1, *Overview of Impact Analysis*, since it is speculative to foresee the compliance activities undertaken by all of the 2,902 warehouses and supporting, the environmental impacts analysis was based on 18 WAIRE Points scenarios to provide "book-ends" of the range of potential environmental impacts associated with the proposed project. The modeled WAIRE Points scenarios reflect the South Coast AQMD's good-faith, best efforts in identifying a way to disclose the greatest potential environmental impacts from actions undertaken to earn WAIRE Points, assuming all of the initial 2,902 warehouse operators chose to undertake one scenario as the single, sole option to comply with the proposed project. Therefore, the WAIRE Points scenarios formed the conceptual and technical basis for the environmental impact analyses in this EA. The necessary infrastructure such as ZE chargers and hydrogen fueling stations was modeled as WAIRE Points scenarios and was also analyzed in Chapter 4, *Environmental Impact Analysis and Mitigation Measures* of the EA. Although the IS concluded that the proposed project is expected to result in less than significant impacts on aesthetics, agricultural and forestry resources, biological resources, cultural and tribal resources, geology and soils, hydrology and water quality (including water supply, wastewater treatment, stormwater drainage), land use and planning, mineral resources, noise, population and housing, public services, recreation, and utilities and service systems, the EA analyzes the indirect environmental impacts to these areas to the extent that they may be impacted by potential future construction of new manufacturing and recycling facilities, and improvements to the electrical grid in Chapter 4.5, *Other Impact Areas*. Please also see *Executive Summary* for the potential environmental impacts that were found to be less than significant.

Although the IS concluded that the proposed project is expected to result in less than significant impacts on hazards and hazardous materials and solid and hazardous waste, the EA analyzes the environmental issues associated with the increased disposal of lithium batteries and hydrogen fuel

cells and their potential impacts on the capacity of local recycling infrastructure in Chapter 4.3.2, *Hazards Associated with Routine Transport, Use, or Disposal of Batteries and Fuels Cells (Significance Criteria)* and Chapter 4.3.4, *Operational Impacts in Excess of the Capacity of Local Recycling Infrastructure*. Chapter 4.3, *Hazardous Materials and Solid and Hazardous Waste*, also analyzes the environmental issues associated with construction waste and transport, use, and disposal of LNG fuel. Additionally, the environmental issues associated with mineral resources and increased disposal of batteries and hydrogen fuel cells are discussed in Chapter 6, *Other CEQA Considerations*, as required by CEQA Guidelines Section 15126(c).

Comment 7-8

III. Environmental Impacts.

CTA strongly supports a comprehensive evaluation of the impacts of the Proposed Rules, including a lifecycle analysis of the reasonably foreseeable consequences of the Proposed Rules. SCAQMD has identified the issues of (1) air quality and greenhouse gases, (2) energy, and (3) transportation for further evaluation in the Draft EA. CTA agrees that these topics merit robust discussion and also encourages SCAQMD to evaluate the effects of the reasonably foreseeable compliance responses. 7-8

Response to Comment 7-8

As discussed in Chapter 4.1.1.3, *Lifecyle Analysis*, CEQA does not require a full lifecycle analysis of potential environmental effects; therefore, a lifecycle analysis was not conducted. While it is infeasible and speculative to foresee compliance actions facilities would undertake, South Coast AQMD used its best efforts to find out and disclose all that *it reasonably can* (*emphasis added*) (CEQA Guidelines Section 15144). The technical approach for the environmental impact analysis is based on the 18 modeled WAIRE Points scenarios because the modeled scenarios provide "book-ends" of the range of potential environmental impacts associated with the proposed project. They also provide a framework for understanding the greatest potential impacts.

The proposed project's potential environmental impacts on air quality and GHG emissions, energy, and transportation are analyzed and included in Chapter 4, *Environmental Impact Analysis and Mitigation Measures*. Although the IS concluded that the proposed project is expected to result in less than significant impacts on hazards and hazardous materials and solid and hazardous waste, the EA analyzes the environmental issues associated with the increased disposal of lithium batteries and hydrogen fuel cells and their potential impacts on the capacity of local recycling infrastructure in Chapter 4, *Environmental Impact Analysis and Mitigation Measures*. Chapter 4, *Environmental Impact Analysis and Mitigation Measures* of the EA also includes an analysis of the indirect environmental impacts on aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, hydrology and water quality, land use and planning, noise, population and housing, public services, recreation, and utilities and service systems to the extent that they may be impacted by potential future construction of new manufacturing and recycling facilities, and improvements to the electrical grid.

Comment 7-9

A. Air Quality and Greenhouse Gas Emissions.

The Proposed Rules encourage the premature transition from conventional to ZE/NZE trucks without considering the consequences outside of the District. The Proposed Rules compel the deployment of new ZE/NZE vehicles before the end of the useful life of the existing conventional fleet. Because these vehicles continue to be assets, they are unlikely to be retired and will instead be transitioned to other uses or jurisdictions. While the Proposed Rules may reduce truck emissions in the District, it is highly foreseeable that these emissions will merely migrate elsewhere. While more difficult to move outside of the District's jurisdiction, it is also likely that the Proposed Rules will force many warehouses to relocate outside of the SCAQMD. Again, while this may reduce the emissions in the District itself, these emissions are ultimately reshuffled rather than eliminated. The effects of the Proposed Rules on air quality cannot be considered in a vacuum. The District must realistically evaluate any emission reductions from the Proposed Rules in light of the significant and foreseeable leakage outside of its jurisdiction. 7-9

The District must also evaluate any emission reductions from the Proposed Rules against increased emissions from electricity generation. While the Proposed Rules anticipate the use of on-site solar panels, these are unlikely to fully offset the demand created by compliance actions. Until greater renewable capacity is realized, grid electricity will continue to be generated through fossil fuels. In the last two years, almost 60% of electricity supplied by Southern California Edison was generated from non-renewable sources. The Proposed Rules will force the transition to ZE/NZE vehicles and the District must analyze the greater emissions generated by this increased electrical demand.

Response to Comment 7-9

Chapter 4, *Environmental Impact Analysis and Mitigation Measures* includes an analysis of the proposed project's potential direct, indirect, and cumulative environmental impacts from compliance responses on air quality and greenhouse gas (GHG) emissions, energy, hazardous materials and solid and hazardous waste from increased disposal of batteries and hydrogen fuel cells, and transportation. Chapter 4, *Environmental Impact Analysis and Mitigation Measures* also includes an analysis of the proposed project's indirect environmental impacts on aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, hydrology and water quality, land use and planning, noise, population and housing, public services, recreation, and utilities and service systems to the extent that they may be impacted by potential future construction of new manufacturing and recycling facilities, and improvements to the electrical grid.

Chapter 4, *Environmental Impact Analysis and Mitigation Measures* also analyzed impacts from transition to NZE and ZE trucks which was modeled as WAIRE Points Scenarios 1-6, 8-10, and 12-14 and replacement of diesel fueled trucks with new NZE and ZE trucks [see Chapter 4.1.3.3, *Transition to NZE and ZE Trucks (Scenarios 1-6, 8-10, 12-14)* of the EA]. In addition, as identified in the Draft WAIRE Menu Technical Report it is anticipated that the operating life of a truck is, on average, 12 years. The general characteristics and operations of truck fleets that serve the South Coast AQMD's jurisdiction are summarized in the Technical Memorandum on Truck Fleets that Serve Warehouses in South Coast AQMD jurisdiction prepared by CALSTART[7]. It is anticipated that when warehouse operators replace trucks with NZE and ZE trucks some of the older trucks will be retired (i.e., scrapped) and some of these trucks would be transitioned to other uses or

[7] CALSTART, Technical Memorandum on Truck Fleets that Serve Warehouses in SCAQMD Jurisdiction. http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/iec_pr-2305-warehouse-relocation-report-(12-23-20).pdf

warehouses outside of South Coast AQMD's jurisdiction for trucks that are no longer eligible to access the San Pedro Bay Ports. However, even in this instance where the trucks are transitioned to other uses, it can be presumed that they would replace even older, higher emissions trucks in an operator's truck fleet. This assumption is based on the fact that the proposed project does not generate an increase in the national or even international demand for trucks used in the goods movement sector. Thus, operators that purchase the trucks replaced by NZE and ZE trucks pursuant to the proposed project would be replacing an existing truck that has aged out of or is nearing the end its useful life. These assumptions support the conclusion that the proposed project would result in a greater turnover of diesel trucks to NZE and ZE trucks than would have occurred without implementation of the proposed project, and that there would be an emissions benefit from the proposed project due to its incentives for replacing older trucks with newer ones. Regardless of whether or not trucks are retired or transferred, there would be a reduction in emissions from replacement of an older truck. These potential reductions as a direct result of the proposed project are captured in the scenario modeling shown in Table 4.1-6 in the EA.

In addition, after the year 2023 the baseline fleet of trucks that are replaced are the same as the baseline fleet of trucks throughout the State due to CARB's Truck and Bus Rule[8]. Therefore, the majority of trucks in the state would be post-2010 trucks. In the event that a truck is sold early, prior to the end of its useful life, in order to purchase a new ZE truck for compliance with the WAIRE Program and the existing truck is sold elsewhere in the state, then the existing truck sold would be equal to the baseline fleet. Since the existing truck is still part of the baseline fleet in the state there would be no change in state-wide emissions. In addition, in the event that the oldest and most polluting truck is replaced, it is speculative to assume that if the oldest and most polluting truck is sold elsewhere in the state that it would be more polluting than the baseline fleet in that location regardless of where it is sold. Further, deployment of ZE and NZE trucks as a result of compliance with PR 2305 does not restrict the use of ZE and NZE trucks to South Coast AQMD's jurisdiction. Therefore, it can be reasonably expected that ZE and NZE trucks will travel to other jurisdictions throughout the state (and potentially other states) to deliver goods and would create an air quality benefit.

It should be noted that the proposed project itself does not cause an expansion of total cargo carried or total miles driven by the truck industry. In addition, the scenario analysis conducted for the Preliminary Draft Staff Report found that older vehicles would need to be retired early only in extreme examples where all operators chose a single compliance option (e.g., all operators only purchased a specific class of truck to earn Points). Otherwise, the number of new trucks entering the market due to PR 2305 would be no greater than normal annual turnover as demonstrated in CARB's EMFAC modeling. The difference would be that instead of new trucks being powered by traditional diesel engine technology, they instead would use NZE or ZE powertrains. This decrease in the number of diesel fueled trucks in the South Coast AQMD region will result in lower emissions of NOx and diesel particulate matter (DPM). Therefore, the WAIRE Program is intended to incentivize the demand and use of NZE and ZE trucks. Instead of acquiring a new diesel fueled truck, it will be a new NZE or ZE truck.

[8] California Air Resources Board, Truck and Bus Regulation. Accessed on 12/18/2020. https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation/about

The proposed project's potential impacts on GHG emissions from increased electricity demands and usage are analyzed in Chapter 4.1.4.3, *Potential GHGs Emissions from Operations (Increased Electricity)*. Actions on the WAIRE Menu that could result in increases in electricity include EV trucks (WAIRE Points Scenario 6), high efficiency filter systems (WAIRE Points Scenario 15), and ZE yard trucks (WAIRE Points Scenario 18). Additionally, Chapter 4.1.4.4, *Scenario Modeling GHG Emissions Reduction Benefits* evaluates potential GHG emissions reductions benefits from purchase and use of solar panels (WAIRE Points Scenario 11). Impacts to electricity providers are analyzed and discussed in Chapter 4.2.3.2.5, *Impacts to Electricity Providers*. Chapter 6, *Other CEQA Considerations* discusses the potential significant irreversible changes that would be caused by the proposed project from increased grid capacity.

Comment 7-10

> Similarly, increased demand for lithium batteries could increase production, lithium mining, and exports from source countries or other states, which requires energy for mineral extraction, processing, and transport, all of which may diminish the benefits of the Proposed Rules. The EA must contain a full discussion of the lifecycle of the various fuels used in ZE/NZE vehicles to provide full disclosure to the public and decisionmakers. 7-10

Response to Comment 7-10

As discussed in Chapter 4.2.1.1, *Lifecycle Analysis*, CEQA does not require a full lifecycle analysis of potential environmental effects; therefore, a lifecycle analysis was not conducted.

The proposed project is intended to accelerate the use of ZE trucks and yard trucks that visit the warehouses in the South Coast AQMD region. Although the IS concluded that the proposed project is expected to result in less than significant impacts on hazardous materials and solid and hazardous waste, the EA the environmental issues associated with the increased disposal of batteries and hydrogen fuel cells and their potential impacts on the capacity of local recycling infrastructure in Chapter 4.3.4, *Operational Impacts in Excess of Capacity of Local Recycling Infrastructure*. Chapter 4.3, *Hazardous Materials and Solid and Hazardous Waste*, also analyzes the environmental issues associated with construction waste and transport, use, and disposal of LNG fuel. The EA also analyzes the indirect impacts associated with the potential increase in mineral extraction and impacts on mineral resources in Chapter 4.5.1, *Indirect Impacts*. Additionally, the EA considers the environmental issues associated with mineral resources and increased disposal of batteries and hydrogen fuel cells in Chapter 6, *Other CEQA Considerations*, as required by CEQA Guidelines Section 15126(c).

Implementation of the proposed project relies on efforts by other sectors such as the waste management sector. The proposed project will contribute its share towards accelerating the use of ZE and NZE trucks and infrastructure, and at the same time regulations and policies pertaining to the receiving and recycling of lithium-ion vehicle batteries are needed. Please see Chapter 4.3, *Hazardous Materials and Solid and Hazardous Waste* for more information.

Comment 7-11

B. Energy.

Increased deployment of ZE/NZE vehicles would place greater demand on the existing electricity grid. As discussed above, this will necessitate additional grid capacity to accommodate demand. For example, Southern California Edison predicts 26 million light-duty electric vehicles will be on the road in California in 2045 and transportation electrification will increase electric load by 130 terawatt-hours, accounting for more than one-third of the grid-served load. As of 2019, Southern California Edison had only 60 terawatt-hours of net generation. As explained above, even ten ZE vehicles during "off peak" hours will increase the "off peak" load to "peak" or higher levels. One hundred medium duty e-trucks charging at the same time demand 1.5 megawatts of electricity and approximately 3,000 warehouses will be subject to the Proposed Rules. The EA must assess the impacts of the Proposed Rules on the state's energy infrastructure.

While pilot projects have been successfully deployed using ZE/NZE vehicles, this success reflects the trucking industry's well-established understanding of existing fueling suppliers. To date, existing demonstration and deployment has been accomplished on a smaller scale and is typically limited to prevent cost-prohibitive utility upgrades. Increasing utility interaction as electric-capable vehicles scale to the levels envisioned in the Proposed Rules will result in potential misalignments between utility policy and regulation and fleet operations. Broader deployment will necessitate extensive coordination with utilities. SCAQMD must include an analysis of the impacts of reasonably foreseeable compliance activities on the utility grid. 7-11

The EA must also assess how the Proposed Rules cumulatively contribute to impacts to the State's energy system. Many municipalities and regulators have advanced electrification initiatives which have the potential to cumulatively overwhelm existing generation and transmission capacity. The cumulative effect of these initiatives is to push the state into a high electrification scenario without the infrastructure necessary to support the new load. The EA must analyze the Proposed Rules' cumulative contribution to this impact in light of the many varied electrification initiatives being adopted.

Response to Comment 7-11

Chapter 4.2, *Energy* analyzes the proposed project's potential energy impacts from construction activities undertaken to comply with the proposed project, and from increases in electricity from ZE trucks, installation of electric chargers to charge ZE trucks, installation of high-efficiency filter systems, purchase and use of ZE yard trucks in the South Coast AQMD region, and impacts to electricity providers. Additionally, the potential significant irreversible changes that would be caused by the proposed project from increased grid capacity that might be caused by the use of ZE trucks, ZE yard trucks, and electric chargers are discussed in Chapter 6, *Other CEQA Considerations*.

It is important to note that implementation of the proposed project relies on efforts by other sectors such as the utilities sector which has engaged in the rulemaking process for the proposed project. The proposed project will contribute its share towards accelerating the use of ZE and NZE trucks and infrastructure, and at the same time planning efforts and actions by public and private partners, including the CEC, the CPUC, Southern California Edison Energy, and publicly owned utilities have shared responsibilities and make important contributions towards the state's ZE future. South Coast AQMD intends to conduct ongoing monitoring, review, and reporting on the performance of the WAIRE Program. These "check-ins" will provide useful information on implementation details and help identify effects from complying with WAIRE Program. South Coast AQMD will continue to engage and coordinate with the utilities sector as part of the "check-ins."

Comment 7-12

C. Transportation.

The Proposed Rules create significant uncertainty in commercial transportation. By compelling the early transition to ZE/NZE vehicles, the Proposed Rules drive rapid and premature fleet turnover for high-cost ZE/NZE vehicles while imposing the uncertain but often high costs of electricity and hydrogen fuel on the logistics sector. Additionally, while the Proposed Rules may incentivize the transition to ZE/NZE vehicles in the SCAQMD's jurisdiction, the Initial Study does not appear to have considered whether there is sufficient charging infrastructure to support these fleets outside of the District. Additionally, as California responds to increasing wildfire threats, public safety power shutoff ("PSPS") events have become increasingly common. The EA should consider the interaction between expedited electrification and PSPS events. It is reasonably foreseeable that the Proposed Rules will lead to significant disruptions to freight transportation in light of these shut off events. 7-12

While impacts to the State's logistics infrastructure are not specifically listed as impacts in Appendix G, the Appendix "is only an illustrative checklist and does not set forth an exhaustive list of potentially significant environmental impacts under CEQA or standards of significance for those impacts." *City of San Diego v California State University* (2011) 201 Cal.App.4th. 1134, 1191; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1108-1111. "Also, the lack of precise quantification or criteria for determining whether an environmental effect is 'significant' under CEQA does not excuse a lead agency from using its best efforts to evaluate whether an effect is significant. *City of San Diego*, 201 Cal.App.4th at 1191; *Berkeley Keep Jets Over the Bay Com. v. Board of Port Cmrs.* (2001) 91 Cal.App.4th 1344, 1370. The District must comprehensively evaluate the impacts to infrastructure in its EA. 7-12 cont.

Response to Comment 7-12

The proposed project is intended to accelerate the use of ZE trucks and ZE yard trucks that visit and operate the warehouses in the South Coast AQMD region. Instead of acquiring a new diesel fueled truck, fleet operators will acquire a new NZE or ZE truck. As analyzed in Chapter 4.4.3.2, *Truck VMT*, there is a potential for trucks to be diverted by operators of warehouses to meet their WPCO, thus decreasing the efficiency of goods movement in the South Coast AQMD region, assuming truck routes are currently optimized for efficiency, which may not be true. It is also possible that warehouse operators will consolidate the number of truck visits at a warehouse facility when the proposed project becomes effective. In fact, there is an incentive for the truck trip consolidation because WPCO are based on the annual truck trips that are reported to South Coast AQMD. If a warehouse operator could increase efficiency of truck movements to reduce the number of truck trips, it would reduce the number of WAIRE Points that would need to be earned within any given compliance year. Please see Chapter 4.4.3, *Transportation Impacts During Operations* for more detailed analysis.

Regarding the cost analysis for the proposed project on freight transportation, please see the Preliminary Draft Staff Report and the upcoming Socioeconomic Report.

Chapter 2 of the IS analyzed the proposed project's potential environmental impacts on wildfire and found that significant adverse wildfire impacts are not expected from implementing the proposed project. Therefore, implementing the proposed project is not expected to increase wildfire threats. Additionally, it is not feasible to anticipate the frequency of public safety power shutoff (PSPS) events and analyze their effects in this EA without undue speculation. If a PSPS event were to occur, it would likely be temporary. Therefore, because the proposed project is not expected to increase the amount of PSPS events, no additional analysis is warranted. It should also

be noted that if a PSPS event were to occur, the additional solar and battery technologies implemented as part of compliance with the proposed project could be used to offset any such disruptions. Moreover, South Coast AQMD intends to conduct ongoing monitoring, review, and reporting on the performance of the WAIRE Program. These "check-ins" will provide useful information on implementation details and help identify effects from complying with WAIRE Program. As part of the "check-ins," South Coast AQMD will continue to engage and coordinate with the utilities sector and the effects of PSPS events on the implementation of the proposed project.

The comment does not specify the state logistics infrastructure and what potential impacts should be considered. As discussed in the economic studies prepared by IEc, implementing the proposed project at the currently proposed rule stringency factor is expected to cause no warehouse relocation. However, for the purpose of providing a conservative analysis, the analysis in the EA assumed up to three warehouse relocations. Chapter 4.4.3, *Transportation Impacts During Operations* analyzes the proposed project's potential impacts on transportation and the efficiency of goods movement in Southern California.

Comment 7-13

IV. Conclusion.

The many impacts that can be expected from the Proposed Rules, as explained throughout this document, necessitate a great deal of caution in the approvals process. CTA urges SCAQMD to pursue the studies and recommendations in this document as well as those contained in the suggestions of the numerous other commenters at public scoping meetings and in written comments to the District. 7-13

Response to Comment 7-13

South Coast AQMD has prepared and circulated an IS and this EA to analyze the potential environmental impacts from implementation of the proposed project. This appendix (Appendix C) includes public comments on the NOP/IS that were received at the public scoping meeting on December 2, 2020 and during the 32-day public comment period (see Table C-1). Responses to comments that raise an environmental issue are prepared and included in this appendix, which will be circulated with the Draft EA for public review. Please refer to Chapter 4, *Environmental Impact Analysis and Mitigation Measures* for analysis of the potential environmental impacts as a result of the proposed project.

Comment Letter #8 – Snell & Wilmer

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December 15, 2020

VIA E-MAIL

Ryan Banuelos
c/o CEQA
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-4178
rbanuelos@aqmd.gov

Re: Comments on Notice of Preparation and Initial Study for Proposed Rule 2305

Dear Mr. Banuelos:

This firm represents NAIOP, the Commercial Real Estate Development Association, SoCal and Inland Empire Chapters (collectively, "NAIOP"), and on their behalf we are submitting comments in response to the District's Notice of Preparation of a Draft Environmental Assessment, Initial Study, and Opportunity for Public Comment. Thank you for the opportunity to comment on this matter. Through its representative Peter Herzog, NAIOP has participated in the various working group meetings held by the District in its early rulemaking process, and we thank the District and its staff for the opportunity to do so. Please include these comments in the administrative record for your rulemaking.

NAIOP is the leading organization for the commercial real estate industry in Southern California. It has approximately 1,300 members comprising commercial real estate owners, developers, investors, lenders, contractors, brokers, insurers, engineers, architects, planners, educators, law firms, and others. Its mission is to provide a unified voice to protect and enhance the commercial real estate industry and quality of life in Southern California. This is accomplished through proactive involvement in public policy, superior educational programs and interactive business relationship opportunities. A significant portion of NAIOP's membership is involved on a daily basis in the support and development of distribution warehouses that are integral to the Southern California logistics industry. As we have all seen, the logistics industry is playing a key role in our response to the COVID-19 pandemic—not only in the distribution of medical supplies, vaccines, and equipment, but also in the delivery goods to a public that has become increasingly dependent on e-commerce. 8-1

Snell & Wilmer is a member of LEX MUNDI, The Leading Association of Independent Law Firms.

Comment Letter #8 (Continued) – Snell & Wilmer

In that regard, the District should explain why, in the midst of the COVID-19 pandemic, it is pursuing a regulation targeted at a sector that serves as a lifeline to our region and the Nation, and which is deemed essential by federal and state governments. Under the current draft rule, reporting obligations begin only 60 days from rule adoption, and the substantive WAIRE Points obligations will commence as soon as July, 2021. This novel rule will impose an entirely new regulatory compliance regime onto distribution warehouse operators. Many warehouse operators are not structured or staffed with the systems and personnel needed to comply with the proposed rule. They generally lack personnel with the expertise to distinguish among the various classes of trucks, and they lack systems needed to gather the information required to be reported. Thus, the District's rulemaking is diverting industry resources and attention to this rule at a time when the industry needs to maintain focus on the efficient and reliable delivery of medical supplies, vaccines, equipment, food, and other essential goods. 8-2

At this time NAIOP SoCal has the following comments in response to the District's Notice of Preparation of a Draft Environmental Assessment and Initial Study:

1. Please quantify the NOx and diesel particulate matter ("DPM") mass and concentration reductions the District expects to achieve with Rule 2305 for each of the first 10 years of its implementation. Please explain how the District computes such reductions and what data it is using in such computations. 8-3

2. Please quantify the ozone concentration reductions the District expects to achieve with Rule 2305, how it computes such reductions, and what data it is using in such computations. 8-4

3. We understand that the District has observed that ozone concentrations have not decreased with corresponding decreases in nitrogen oxide ("NOx") concentrations. Please explain this phenomenon. Specifically, what has been the correlation between NOx emissions, NOx concentrations, and ozone concentrations since 2012 (ref. Figure 1-2). 8-5

4. In regard to Figure 1-2, please explain whether and how the NOx emissions used in the figure account for other planned regulatory measures controlling NOx and other ozone precursors. 8-6

5. The Environmental Assessment should evaluate and consider the following alternatives, among others: (1) Stricter engine emission standards to be adopted by the California Air Resources Board ("CARB"); (2) Implementation of stricter truck emission standards at the ports of Los Angeles & Long Beach; (3) Requiring owners of truck fleets to phase in ZE and NZE vehicles. 8-7

6. Please discuss and provide references for the commercial availability of all items on the WAIRE Menu. Please identify all suppliers of such items and the current number of such items available, as well as the number of such items projected to be available in each of the first 10 years of Rule 2305's implementation, and provide the basis for such projections. 8-8

Comment Letter #8 (Continued) – Snell & Wilmer

7. Please discuss and provide references for the availability of design and construction specifications that may be used for on-site ZE and NZE charging or fueling infrastructure. 8-9

8. Please explain how the District has derived points attributable to each of the items on its WAIRE Menu, and provide all computations and data supporting the same. 8-10

9. Please explain how certain items on the WAIRE Menu (specifically on-site solar panels and high-efficiency filters or filter systems) will reduce ambient ozone concentrations, and provide quantification and supporting data. 8-11

10. Please explain with as much specificity and detail as possible how the annual mitigation fees generated to satisfy WAIRE Points obligations under Rule 2305(d)(5) will be used. 8-12

11. The Environmental Checklist states that the District will apply collected mitigation fees to subsidize the purchase of ZE and NZE trucks and installation of ZE charging/fueling infrastructure. Please explain the subsidy plan in detail and make a copy of the subsidy plan publicly available. 8-13

12. Please explain with as much specificity and detail as possible how the District derives the amount of the mitigation fee payment under Rule 2305(d)(5). Please provide all computations and identify all data used in such computations. 8-14

13. In regard to Figure 1-5b, please quantify the NOx reductions to be achieved upon implementation of these other emission control measures, and the incremental NOx reductions to be achieved by Rule 2305 once the other control measures are implemented. 8-15

14. In the latest version of the draft rule (10/6/20), the rule is missing information needed to determine owners' and operators' WAIRE Points obligations. Specifically, the draft rule is lacking the Stringency and Annual Variable factors needed to compute an owner or operator's WAIRE Points obligation. The draft rule also provides that operators' obligations will depend in part on the provisions of the WAIRE Program Implementation Guidelines, which to our knowledge are not yet developed. Please explain how the District can assess the impacts of the rule when it doesn't yet know the extent of operators' compliance obligations. Any environmental review is premature until the District has fully defined the extent of operators' compliance obligations, including but not limited to how many points each warehouse will be required to earn. 8-16

15. The Environmental Assessment should address the environmental impacts of manufacture, use, and disposal of batteries that will be used in the ZE and NZE trucks used in response to Rule 2305. 8-17

16. The Environmental Assessment should address the source, availability, and cost of hydrogen fuel, and the environmental impacts associated with the production, transfer, and storage of hydrogen fuel used in response to Rule 2305. 8-18

Comment Letter #8 (Continued) – Snell & Wilmer

Snell & Wilmer
L.L.P.

17. The Environmental Assessment should address the environmental impacts associated with the generation, importation, transmission, and distribution of electricity needed to power the ZE and NZE vehicles contemplated by the rule. Additionally, the Environmental Assessment should address the rule's impact on future rolling blackouts and California's dependence on importation of electricity generated in other states. 8-19

18. The Environmental Assessment should address the potential disruption to supply chain and logistics, including to the distribution of medical equipment, vaccines, medical supplies, food, and other essential goods in emergency and non-emergency circumstances. 8-20

19. The Environmental Assessment should address the uses and environmental impacts associated with trucks that will be replaced by the ZE and NZE vehicles that are purchased and used as a result of Rule 2305. 8-21

20. Please explain whether traffic volumes used in the District's evaluation were pre-COVID traffic or projected post-COVID traffic. Please explain why the District chose as it did, and provide citation to all studies, surveys and other data from which the District obtained the traffic volumes used. 8-22

Thank you for your attention to these comments. Please include me on your list of persons to receive all future notices concerning this rule.

Best regards,

Snell & Wilmer

Sean M. Sherlock

SMS:kc

cc: Mr. Timothy Jemal, CEO, NAIOP SoCal
Mr. Robert Evans, Executive Director, NAIOP Inland Empire

4848-3814-9332

Responses to Comment Letter #8 – Snell & Wilmer

Comment 8-1

This firm represents NAIOP, the Commercial Real Estate Development Association, SoCal and Inland Empire Chapters (collectively, "NAIOP"), and on their behalf we are submitting comments in response to the District's Notice of Preparation of a Draft Environmental Assessment, Initial Study, and Opportunity for Public Comment. Thank you for the opportunity to comment on this matter. Through its representative Peter Herzog, NAIOP has participated in the various working group meetings held by the District in its early rulemaking process, and we thank the District and its staff for the opportunity to do so. Please include these comments in the administrative record for your rulemaking.

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Response to Comment 8-1

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. No further response is necessary.

Comment 8-2

In that regard, the District should explain why, in the midst of the COVID-19 pandemic, it is pursuing a regulation targeted at a sector that serves as a lifeline to our region and the Nation, and which is deemed essential by federal and state governments. Under the current draft rule, reporting obligations begin only 60 days from rule adoption, and the substantive WAIRE Points obligations will commence as soon as July, 2021. This novel rule will impose an entirely new regulatory compliance regime onto distribution warehouse operators. Many warehouse operators are not structured or staffed with the systems and personnel needed to comply with the proposed rule. They generally lack personnel with the expertise to distinguish among the various classes of trucks, and they lack systems needed to gather the information required to be reported. Thus, the District's rulemaking is diverting industry resources and attention to this rule at a time when the industry needs to maintain focus on the efficient and reliable delivery of medical supplies, vaccines, equipment, food, and other essential goods. 8-2

Response to Comment 8-2

The need for the proposed project is addressed in Chapter 1 of the Preliminary Draft Staff Report[9]. This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. In addition, Chapter 5, *Alternatives* includes a "no project" alternative and at the public hearing, the Governing Board may choose to adopt the proposed project or to adopt a version of the rule such as one of the alternatives analyzed in Chapter 5, *Alternatives*.

[9] http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/preliminary-draft-staff-report.pdf

Comment 8-3

1. Please quantify the NOx and diesel particulate matter ("DPM") mass and concentration reductions the District expects to achieve with Rule 2305 for each of the first 10 years of its implementation. Please explain how the District computes such reductions and what data it is using in such computations. | 8-3

Response to Comment 8-3

Chapter 4.1, *Air Quality and Greenhouse Gas Emissions* analyzes the air quality and greenhouse gas emissions, including NOx and DPM emission reductions, as a result of compliance with the proposed project. Additional information on the calculations can be found in the Preliminary Draft Staff Report[10]. Potential changes in NOx and DPM concentrations would be speculative and have not been calculated as the underlying assumptions needed to conduct this analysis are too uncertain (e.g., thousands of facilities covered by PR 2305, various compliance options that are available, uncertainty about which routes trucks take going to and from each facility, etc.). Therefore, for the purposes of this EA, NOx and DPM concentration reductions were not modeled.

Comment 8-4

2. Please quantify the ozone concentration reductions the District expects to achieve with Rule 2305, how it computes such reductions, and what data it is using in such computations. | 8-4

Response to Comment 8-4

Chapter 3, *Existing Setting* describes the need for NOx emission reductions as a strategy to reduce ozone in the South Coast AQMD jurisdiction, including how NOx emission reductions are more effective to reduce the formation of ozone. Chapter 4.1, *Air Quality and Greenhouse Gas Emissions* analyzes the air quality and GHG emissions from the proposed project, including emission reduction benefits, of the primary emitted pollutants such as a NOx and PM in order to compare to South Coast AQMD's CEQA significance thresholds. Ozone is a secondary pollutant which is not primarily emitted and South Coast AQMD does not have a significance threshold for ozone, using the ozone precursors of NOx and VOC as surrogates for ozone formation. Therefore, for purposes of this EA, ozone concentrations were not modeled. Ozone concentrations cannot be reasonably calculated for individual rules given the many variables needed to conduct this regional modeling analysis. This multi-year regional modeling effort is regularly conducted by South Coast AQMD as part of its Air Quality Management Plans (AQMPs). The proposed rule is included as a control measure in the 2016 AQMP, and modeling conducted for that report found that if all control measures are implemented that ozone would be reduced and would meet federal and state air quality standards.

[10] http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/preliminary-draft-staff-report.pdf

Comment 8-5

3. We understand that the District has observed that ozone concentrations have not decreased with corresponding decreases in nitrogen oxide ("NOx") concentrations. Please explain this phenomenon. Specifically, what has been the correlation between NOx emissions, NOx concentrations, and ozone concentrations since 2012 (ref. Figure 1-2). 8-5

Response to Comment 8-5

Chapter 3, *Existing Setting* addresses how ozone is formed and summarizes the monitored ozone concentrations in the South Coast AQMD region. For an additional overview of ozone formation and the challenges associated with achieving ozone reductions in the South Coast AQMD jurisdiction refer to the Final 2016 AQMP[11].

Comment 8-6

4. In regard to Figure 1-2, please explain whether and how the NOx emissions used in the figure account for other planned regulatory measures controlling NOx and other ozone precursors. 8-6

Response to Comment 8-6

Figure 1-2 of the IS shows the total NOx emissions in the SCAB that must be reduced by approximately 45 percent beyond baseline 2023 levels, and 55 percent beyond baseline 2031 levels to meet the 8-hour ozone NAAQS. 'Baseline' emissions include the projected future emissions accounting for all adopted regulations at the time that the 2016 AQMP was adopted. Figure 1-2 from the IS is also included in Chapter 2, *Proposed Project* of the EA as Figure 2-2. To meet air pollution reduction goals, the 2016 AQMP contains FBMSMs to reduce NOx emissions from mobile sources utilized as part of the goods movement industry as one of many local, state, and federal strategies to meet the federal 8-hour ozone standard. These strategies rely on reducing NOx emissions as a precursor to the formation of both ozone and PM 2.5 but also include measures to reduce primary emitted PM2.5. The FBMSMs were focused on four sectors of the goods movement industry: commercial marine ports, rail yards and intermodal facilities, warehouse distribution centers, and commercial airports. The proposed project is part of the FBMSMs intended to reduce NOx and therefore help achieve the federal 8-hour ozone standard. Emission reductions from regulations adopted since the 2016 AQMP have been accounted for in the analysis included in the Preliminary Draft Staff Report and in the EA.

Comment 8-7

5. The Environmental Assessment should evaluate and consider the following alternatives, among others: (1) Stricter engine emission standards to be adopted by the California Air Resources Board ("CARB"); (2) Implementation of stricter truck emission standards at the ports of Los Angeles & Long Beach; (3) Requiring owners of truck fleets to phase in ZE and NZE vehicles. 8-7

Response to Comment 8-7

Chapter 5, *Alternatives* includes an analysis of alternatives to the proposed project. The WAIRE Program includes options for the warehouse operators to phase in ZE and NZE trucks and ZE yard trucks. Alternatives D and E envision all natural gas only and all electric only options, respectively.

[11] South Coast AQMD, Final 2016 Air Quality Management Plan. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf

The other alternatives that the comment recommends are outside the scope of the South Coast AQMD's legal authority and ability to enforce as an air district; therefore, they have not been included in Chapter 5, *Alternatives*. The suggestion to implement truck emission standards at the ports is beyond the scope of the proposed project as it addresses facilities that are not warehouses (the subject of the proposed project), and most truck visits to warehouses are not to or from the ports. Other measures underway (including the ports' updates to their Clean Truck Program and CARB's proposed requirement for drayage trucks as part of its upcoming Advanced Clean Fleets rule) that would reduce emissions from trucks visiting the ports would also reduce emissions from trucks visiting warehouses, and any requirements there would complement the proposed project's emissions reduction approach. Existing and upcoming CARB regulations are addressed in Chapter 3, *Existing Setting* of the EA.

Comment 8-8

> 6. Please discuss and provide references for the commercial availability of all items on the WAIRE Menu. Please identify all suppliers of such items and the current number of such items available, as well as the number of such items projected to be available in each of the first 10 years of Rule 2305's implementation, and provide the basis for such projections. | 8-8

Response to Comment 8-8

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. The Draft WAIRE Menu Technical Report[12] addresses commercial availability of items on the WAIRE Menu. Further identification of specific suppliers of a particular WAIRE Menu action or investment or the quantity of items available is speculative because the South Coast AQMD cannot predict and has no feasible way to identify which manufacturers or retailers would supply items from the WAIRE Menu. It should also be noted that technologies and companies change over time due to dynamic market conditions for which South Coast AQMD has no control over and cannot reasonably predict or foresee this.

Nonetheless, CARB researched the commercial availability of ZE vehicles and referenced commercial availability statistics on their slide presentation for their August 21, 2019 workshop[13].

Comment 8-9

> 7. Please discuss and provide references for the availability of design and construction specifications that may be used for on-site ZE and NZE charging or fueling infrastructure. | 8-9

Response to Comment 8-9

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. South Coast AQMD cannot predict design specifications for ZE or NZE charging or fueling infrastructure because it is not reasonably foreseeable to determine the location, manner, and scope that an individual owner or operator would choose to implement these WAIRE Menu actions or investments for compliance with the WAIRE Program. The proposed project does not prescribe design and construction specifications that must be met other than the

[12] South Coast AQMD, March 3, 2020, Draft WAIRE Menu Technical Report. Accessed on December, 18, 2020. https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/waire-menu-technical-report_draft_3-3-20.pdf

[13] https://ww2.arb.ca.gov/sites/default/files/2019-08/190821actpres_0.pdf

kilowatt rating of charging equipment. Local building codes, local utility requirements, site specific characteristics, and business needs will determine the requested specifications.

Comment 8-10

8. Please explain how the District has derived points attributable to each of the items on its WAIRE Menu, and provide all computations and data supporting the same. | 8-10

Response to Comment 8-10

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. Calculating and earning WAIRE points, including how the weight of each WAIRE point was determined, is discussed in Chapter 2 and Appendix B of the Preliminary Draft Staff Report[9].

Comment 8-11

9. Please explain how certain items on the WAIRE Menu (specifically on-site solar panels and high-efficiency filters or filter systems) will reduce ambient ozone concentrations, and provide quantification and supporting data. | 8-11

Response to Comment 8-11

As described in Chapter 2, *Proposed Project*, solar panels are included in the WAIRE Menu to offset the amount of energy required to power ZE charging infrastructure in addition to allowing warehouses to draw energy from a renewable power source in lieu of natural gas fueled power plants. Solar energy production has a direct criteria pollutant emission reduction impact to the extent that this power generation replaces natural gas power plants which emit NOx, thus assisting in meeting federal ozone standards (see 2016 AQMP[11] page 4-4). Since atmospheric ozone is formed photochemically from precursors such as NOx and VOC, in order to ultimately achieve the ozone ambient air quality standards and demonstrate attainment, significant NOx emission reductions are necessary in the South Coast AQMD. Therefore, a reduction in criteria pollutants such as NOx from power plants as a result of installing and using solar panels to comply with the WAIRE Program will help the South Coast AQMD reach attainment for ozone. In addition, a co-benefit to solar energy production is the reduction in GHGs due to expanded renewable energy availability and production. Quantification of potential benefits from solar power generation are included in the Preliminary Draft Staff Report and in Chapter 4.2, *Energy* of the EA.

MERV 16 or greater filters or filter systems are intended to provide a local benefit to communities that are in close proximity to a warehouse by reducing community exposure to particulate matter, such as DPM. The filters do not reduce emissions of NOx or PM at the source or cause a reduction in ozone concentration nor is that the intent of including filters in the WAIRE Menu. The high efficiency filters and filter systems are a method to achieve exposure reduction for the community surrounding warehouses.

Comment 8-12

10. Please explain with as much specificity and detail as possible how the annual mitigation fees generated to satisfy WAIRE Points obligations under Rule 2305(d)(5) will be used. | 8-12

Response to Comment 8-12

The WAIRE Mitigation Program, including the use of the funds, is discussed in Chapter 2 of the Preliminary Draft Staff Report[9]. It is anticipated that the annual mitigation fees would be used to achieve the emission reductions envisioned by the items on the WAIRE Menu, therefore, the environmental impacts of using the mitigation fee would be similar to those of the WAIRE Menu and have been analyzed in Chapter 4 of this EA.

Comment 8-13

11. The Environmental Checklist states that the District will apply collected mitigation fees to subsidize the purchase of ZE and NZE trucks and installation of ZE charging/fueling infrastructure. Please explain the subsidy plan in detail and make a copy of the subsidy plan publicly available. | 8-13

Response to Comment 8-13

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. The proposed WAIRE mitigation program is discussed in further detail in Chapter 2 of the Preliminary Draft Staff Report. The WAIRE Mitigation Program has not yet been finalized but is discussed in the Preliminary Draft Staff Report[14].

Comment 8-14

12. Please explain with as much specificity and detail as possible how the District derives the amount of the mitigation fee payment under Rule 2305(d)(5). Please provide all computations and identify all data used in such computations. | 8-14

Response to Comment 8-14

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. Additional discussion about this calculation is included in Chapter 2 of the Preliminary Draft Staff Report. Discussion on the mitigation fee is provided in the Preliminary Draft Staff Report[15].

Comment 8-15

13. In regard to Figure 1-5b, please quantify the NOx reductions to be achieved upon implementation of these other emission control measures, and the incremental NOx reductions to be achieved by Rule 2305 once the other control measures are implemented. | 8-15

Response to Comment 8-15

Chapter 4, *Environmental Impact Analysis and Mitigation Measures* analyzes NOx and PM 2.5 emission reductions expected as a result of implementation of the proposed project. Quantification of upcoming regulations is speculative and cannot reasonably be accomplished without sufficient details of the proposed regulatory approach. Three regulations that are imminent that are

[14] http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/preliminary-draft-staff-report.pdf
[15] http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/preliminary-draft-staff-report.pdf

sufficiently detailed (Advanced Clean Trucks, Low NOx Omnibus, Heavy Duty I/M) have been quantified and are included in the analysis within the EA and the Preliminary Draft Staff Report.

Comment 8-16

14. In the latest version of the draft rule (10/6/20), the rule is missing information needed to determine owners' and operators' WAIRE Points obligations. Specifically, the draft rule is lacking the Stringency and Annual Variable factors needed to compute an owner or operator's WAIRE Points obligation. The draft rule also provides that operators' obligations will depend in part on the provisions of the WAIRE Program Implementation Guidelines, which to our knowledge are not yet developed. Please explain how the District can assess the impacts of the rule when it doesn't yet know the extent of operators' compliance obligations. Any environmental review is premature until the District has fully defined the extent of operators' compliance obligations, including but not limited to how many points each warehouse will be required to earn. 8-16

Response to Comment 8-16

Chapter 2, *Proposed Project* includes a discussion of how to calculate and earn WAIRE points, and how to calculate the Warehouse Points Compliance Obligation (WPCO). The proposed stringency and the annual variable are included in the most recent draft rule language and the Preliminary Draft Staff Report. Although it is not feasible to determine which compliance actions each of the 2,902 warehouse operators will choose to comply with the proposed project at this time without undue speculation, South Coast AQMD used a good-faith effort to develop 18 WAIRE Points scenarios to represent a wide range of potential compliance options and modeled each of them. Warehouse operators may earn WAIRE Points through a Custom WAIRE Plan specific to their operation that satisfies prescribed performance metrics. In lieu of satisfying or to supplement earned WAIRE Points to meet the WPCO within each compliance year, a warehouse operator may choose to pay an optional mitigation fee to the South Coast AQMD that would be used in a mitigation program to achieve the emissions reductions. The selection of specific WAIRE Menu actions or WPCO compliance strategy (in the form of WAIRE Menu actions, a Custom WAIRE Plan, and/or the payment of mitigation fee) cannot be precisely forecasted at this time. The unknown is also driven by and dependent upon warehouse-specific factors, including, for example, the physical configuration of a warehouse and space available for EV charging infrastructure onsite. Environmental impacts of the proposed project were analyzed using conservative assumptions.

Comment 8-17

15. The Environmental Assessment should address the environmental impacts of manufacture, use, and disposal of batteries that will be used in the ZE and NZE trucks used in response to Rule 2305. 8-17

Response to Comment 8-17

The proposed project is intended to accelerate the use of ZE trucks and yard trucks that visit the warehouses in the South Coast AQMD region. Although the IS concluded that the proposed project is expected to result in less than significant impacts on hazardous materials and solid and hazardous waste, the EA analyzes the environmental issues associated with the increased disposal of batteries and hydrogen fuel cells and their potential impacts on the capacity of local recycling infrastructure in Chapter 4.3.4, *Operational Impacts in Excess of Capacity of Local Recycling Infrastructure*. Chapter 4.3, *Hazardous Materials and Solid and Hazardous Waste*, also analyzes the environmental issues associated with construction waste and transport, use, and disposal of LNG

fuel. The EA also analyzes the indirect impacts associated with the potential increase in mineral extraction and impacts on mineral resources in Chapter 4.5.1, *Indirect Impacts*. Additionally, the EA considers the environmental issues associated with mineral resources and increased disposal of batteries and hydrogen fuel cells in Chapter 6, *Other CEQA Considerations*, as required by CEQA Guidelines Section 15126(c).

Comment 8-18

> 16. The Environmental Assessment should address the source, availability, and cost of hydrogen fuel, and the environmental impacts associated with the production, transfer, and storage of hydrogen fuel used in response to Rule 2305. | 8-18

Response to Comment 8-18

The Draft WAIRE Menu Technical Report[16] addresses hydrogen fueling station installation, usage, availability, and costs. Chapter 4, *Environmental Impact Analysis and Mitigation Measures* analyzes the environmental impacts associated with installation of a hydrogen fueling station as well as the quantity of fuel expected to be used as a result of the proposed project. The EA appropriately and conservatively analyzed the various reasonably foreseeable compliance actions as a result of the proposed project.

Comment 8-19

> 17. The Environmental Assessment should address the environmental impacts associated with the generation, importation, transmission, and distribution of electricity needed to power the ZE and NZE vehicles contemplated by the rule. Additionally, the Environmental Assessment should address the rule's impact on future rolling blackouts and California's dependence on importation of electricity generated in other states. | 8-19

Response to Comment 8-19

The environmental impacts associated with energy are addressed in Chapter 4.2, *Energy*. The increase in the need for utilities like SCE to expand their energy production, storage, and transmission lines is addressed in Chapter 6. If a rolling blackout were to occur, it would be temporary in nature and it is impossible to predict the frequency and duration of rolling blackouts. The EA appropriately and conservatively analyzes the reasonably foreseeable energy impacts as a result of the proposed project.

South Coast AQMD intends to conduct ongoing monitoring, review, and reporting on the performance of the WAIRE Program. These "check-ins" will provide useful information on implementation details and help identify effects from complying with the WAIRE Program. As part of the "check-ins," South Coast AQMD will continue to engage and coordinate with the utilities sector about the effects of PSPS events on the implementation of the proposed project.

[16] South Coast AQMD, March 3, 2020, Draft WAIRE Menu Technical Report. Accessed on December, 18, 2020. https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/waire-menu-technical-report_draft_3-3-20.pdf

Comment 8-20

18. The Environmental Assessment should address the potential disruption to supply chain and logistics, including to the distribution of medical equipment, vaccines, medical supplies, food, and other essential goods in emergency and non-emergency circumstances. | 8-20

Response to Comment 8-20

Based on the results of the IEc Study[17], under the currently proposed rule stringency factor, the proposed project would not result in warehouse relocations out of South Coast AQMD's jurisdiction therefore no disruption to supply chain logistics is expected. Under the highest rule stringency factor of 0.0050 WAIRE Points per WATT, the proposed project would result in a maximum of six warehouse relocations. The analysis in the EA conservatively considers the potential for up to three warehouse relocations when analyzing the proposed project's environmental impacts. The proposed project does not include any provisions related to the distribution of any goods including medical equipment, vaccines, medical supplies, food, or other essential good in emergency and non-emergency circumstances. Therefore, no further analysis is necessary. Potential costs of the rule are presented in the Preliminary Draft Staff Report and in the upcoming Socioeconomic Impact Assessment. As described there, the costs anticipated from this rule are consistent with cost increases regularly experienced by industry (e.g., due to annually increasing rents), and disruptions to supply chains are therefore not expected.

Comment 8-21

19. The Environmental Assessment should address the uses and environmental impacts associated with trucks that will be replaced by the ZE and NZE vehicles that are purchased and used as a result of Rule 2305. | 8-21

Response 8-21

The transition to NZE and ZE trucks is discussed in Chapter 4.1.3.3, *Transition to NZE and ZE Trucks (Scenarios 1-6, 8-10, 12-14)* of the EA. In addition, as identified in the Draft WAIRE Menu Technical Report it is anticipated that the operating life of a truck is, on average, 12 years. The general characteristics and operations of truck fleets that serve the South Coast AQMD's jurisdiction are summarized in the Technical Memorandum on Truck Fleets that Serve Warehouses in SCAQMD Jurisdiction prepared by CALSTART[18]. It is anticipated that when warehouse operators replace trucks with NZE and ZE trucks some of the older trucks will be retired (i.e., scrapped) and some of these trucks would be transitioned to other uses or warehouses outside of South Coast AQMD's jurisdiction for trucks that are no longer eligible to access the San Pedro Bay Ports. However, even in this instance where the trucks are transitioned to other uses, it can be presumed that they would replace even older, higher emissions trucks in an operator's truck fleet. This assumption is based on the fact that the proposed project does not generate an increase in the national or even international demand for trucks used in the goods movement sector. Thus, operators that purchase the trucks replaced by NZE and ZE trucks pursuant to the proposed project would be replacing an existing truck that has aged out of or is nearing the end its useful life. These assumptions support the conclusion that the proposed project would result in a greater turnover of

[17] IEc, Memorandum, ISR Relocation Model – Methodology.

[18] CALSTART, Technical Memorandum on Truck Fleets that Serve Warehouses in SCAQMD Jurisdiction. http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/iec_pr-2305-warehouse-relocation-report-(12-23-20).pdf

diesel trucks to NZE and ZE trucks than would have occurred without implementation of the proposed project, and that there would be an emissions benefit from the proposed project due to its incentives for replacing older trucks with newer ones. Regardless of whether or not trucks are retired or transferred, there would be a reduction in emissions from replacement of an older truck. These potential reductions as a direct result of the proposed project are captured in the scenario modeling shown in Table 4.1-6 in the EA.

In addition, after the year 2023 the baseline fleet of trucks that are replaced are the same as the baseline fleet of trucks throughout the State due to CARB's Truck and Bus Rule[19]. Therefore, the majority of trucks in the state would be post-2010 trucks. In the event that a truck is sold early, prior to the end of its useful life, in order to purchase a new ZE truck for compliance with the WAIRE Program and the existing truck is sold elsewhere in the state, then the existing truck sold would be equal to the baseline fleet. Since the existing truck is still part of the baseline fleet in the state there would be no change in state-wide emissions. In addition, in the event that the oldest and most polluting truck is replaced, it is speculative to assume that if the oldest and most polluting truck is sold elsewhere in the state that it would be more polluting than the baseline fleet in that location regardless of where it is sold. Further, deployment of ZE and NZE trucks as a result of compliance with the proposed project does not restrict the use of ZE and NZE trucks to South Coast AQMD's jurisdiction. Therefore, it can be reasonably expected that ZE and NZE trucks will travel to other jurisdictions throughout the state (and potentially other states) to deliver goods and would create an air quality benefit.

It should also be noted that compliance with the proposed project does not increase the number of trucks or truck trips from the baseline of trucks in the South Coast AQMD. If truck owners are selling trucks outside of the South Coast AQMD or out of state, then these trucks are from businesses that are replacing trucks and are not being sold as a result of compliance with the proposed project.

Comment 8-22

> 20. Please explain whether traffic volumes used in the District's evaluation were pre-COVID traffic or projected post-COVID traffic. Please explain why the District chose as it did, and provide citation to all studies, surveys and other data from which the District obtained the traffic volumes used. 8-22
>
> Thank you for your attention to these comments. Please include me on your list of persons to receive all future notices concerning this rule.

Response to Comment 8-22

In light of SB 743, the transportation analysis in this EA, as required by CEQA, does not look at "level of service" which would involve an analysis of traffic volumes but rather uses VMT. The measures put into place to slow the spread of COVID-19 resulted in significant changes in human activity and VMT. Most notable are the temporary reductions in both heavy-duty and light-duty VMT across the state's highways and local roads, and the resulting temporary emission reductions. In California, VMT fell to its lowest point in early- to mid-April, with an approximately 25 percent reduction in heavy-duty VMT and 50 to 60 percent reduction in light-duty VMT. Since that time,

[19] California Air Resources Board, Truck and Bus Regulation. Accessed on 12/18/2020. https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation/about

both heavy-duty and light-duty VMT have steadily increased, with heavy-duty VMT returning to pre-COVID-19 levels in early June. COVID-19 stay-at-home orders and related closures are temporary measures. While there is potential for changes made during this time to have far-reaching implications for transportation mode choice, shared mobility, vehicle choice, and VMT into the future, the medium- or long-term effects of the COVID-19 on VMT are uncertain at this point in time, and it would be speculative to estimate any potential long-term or permanent changes. Predicting the proposed project's physical impacts on the environment without firm evidence based on facts to support the analysis would require an engagement in speculation or conjecture that is inappropriate for an EA. Accordingly, the transportation impact analysis presented in this EA is generally based on the assumption that general behavior would be similar to conditions prior to the start of COVID-19 stay-at-home orders.

Comment Letter #9
General Motors Customer Care & Aftersales (CCA)
December 15, 2020

December 15, 2020

Mr. Ryan Bañuelos (c/o CEQA)
South Coast Air Quality Management District (SCAQMD)
21865 Copley Dr
Diamond Bar, CA 91765-4178

Transmitted via e-mail

RE: Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program

Dear Mr. Bañuelos,

General Motors Customer Care & Aftersales (CCA) respectfully submits these comments to SCAQMD on Proposed Rule 2305 – Warehouse Indirect Source rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program. General Motors (GM) applauds SCAQMD for its efforts to reduce emissions though moving towards zero-emission truck fleets through the WAIRE Program and related California Environmental Quality Act (CEQA) Indirect Source Review (ISR) programs. GM is committed to a Zero Emissions future as well as sound regulatory policy that helps drive this vision. 9-1

To Not Hinder Emissions Reductions, Excess WAIRE Points Earned Should Not Expire

Section (d)(3)(B) states that 'if a warehouse operator earns more WAIRE Points than is required for its annual Warehouse Points Compliance Obligation, then it may use those remaining WAIRE Points at the same warehouse to satisfy its Warehouse Points Compliance Obligation in any of the following three years'.

Recommendation: 'If a warehouse operator earns more WAIRE Points than is required for its annual Warehouse Points Compliance Obligation, then it may use those remaining WAIRE Points at the same warehouse to satisfy its Warehouse Points Compliance Obligation in any following years.' 9-2

Warehouse owners and operators should be encouraged to go above and beyond the requirements of Proposed Rule 2305 and to do so as soon as possible. Limiting the lifetime of WAIRE points could have the unintended consequence of delaying or scaling back potential projects that might otherwise move forward. Further, larger projects in this regard encourage emission reductions faster resulting in the South Coast region meeting its targets earlier and providing tangible near-term benefits for local communities.

Comment Letter #9 (Continued)
General Motors Customer Care & Aftersales (CCA)

Projects to Reduce Emissions Should be Allowed to be Started Immediately (and still earn WAIRE points in the first year)

During the PR2305 CEQA Scoping Meeting on December 2, 2020, it was stated that the installation of ZE Charging or Onsite Solar Panels prior to the first period warehouses can begin earning WAIRE points would not count for WAIRE points to be earned in the first year (currently written as the period of July 1, 2020 through June 30, 2021 in Draft PR2305 for 200,000+sq ft warehouses).

Recommendation: Allow warehouses that want to move quickly to purchase ZE or NZE vehicles, or that wish to install ZE Charging stations or onsite solar panels, to install these during the period from the date Rule 2305 is final until the start of each facility's first year WAIRE points obligation period and still accrue the WAIRE points to be used in the first year. Owners and operators that want to move quickly to reduce emissions should not be forced to wait to gain WAIRE points when such actions would effectively reduce emissions in the South Coast region faster. 9-3

Consider Adding Flexibility to Account for the Availability of ZE and NZE Trucks and Infrastructure

Warehouse owners and operators may not have control of the availability of ZE and NZE Trucks that meet operational requirements or the availability of the infrastructure necessary in which to use them for their operations. The California Air Resources Board (CARB) recognized the need to add flexibilities to account for these types of situations in the Fleet Rule for Innovative Transit (2023.4).

Recommendation: SCAQMD may want to consider adding similar flexibilities to Proposed Rule 2305 should ZE or NZE trucks that meet operational requirements for warehouses not be readily available in quantities needed to satisfy the demand as a result of this proposed rule. Similarly, SCAQMD may want to consider adding flexibility to account for site-specific infrastructure barriers or delays that may be outside the control of warehouse owners and operators. 9-4

GM believes Proposed Rule 2305 will support emission reductions necessary in the South Coast region and pave our shared path to a Zero Emissions future. We believe the above comments and recommendations will make Rule 2305 more flexible for warehouse Owners and Operators and will lead to further emission reductions faster. Questions about the above comments and recommendations can be directed to me and/or Todd Rouse, Environmental Policy Manager, at 419-205-2667 or todd.rouse@gm.com. Thank you for your attention on this matter.

Respectfully,

Carolyn Cooper
GM-CCA Leader – LA Complex
Phone: 586-335-0393
Email: carolyn.cooper@gm.com

Responses to Comment Letter #9

Comment 9-1

Dear Mr. Bañuelos,

General Motors Customer Care & Aftersales (CCA) respectfully submits these comments to SCAQMD on Proposed Rule 2305 – Warehouse Indirect Source rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program. General Motors (GM) applauds SCAQMD for its efforts to reduce emissions though moving towards zero-emission truck fleets through the WAIRE Program and related California Environmental Quality Act (CEQA) Indirect Source Review (ISR) programs. GM is committed to a Zero Emissions future as well as sound regulatory policy that helps drive this vision. 9-1

Response to Comment 9-1

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. No further response is necessary.

Comment 9-2

To Not Hinder Emissions Reductions, Excess WAIRE Points Earned Should Not Expire

Section (d)(3)(B) states that 'if a warehouse operator earns more WAIRE Points than is required for its annual Warehouse Points Compliance Obligation, then it may use those remaining WAIRE Points at the same warehouse to satisfy its Warehouse Points Compliance Obligation in any of the following three years'.

Recommendation: 'If a warehouse operator earns more WAIRE Points than is required for its annual Warehouse Points Compliance Obligation, then it may use those remaining WAIRE Points at the same warehouse to satisfy its Warehouse Points Compliance Obligation in any following years.' 9-2

Warehouse owners and operators should be encouraged to go above and beyond the requirements of Proposed Rule 2305 and to do so as soon as possible. Limiting the lifetime of WAIRE points could have the unintended consequence of delaying or scaling back potential projects that might otherwise move forward. Further, larger projects in this regard encourage emission reductions faster resulting in the South Coast region meeting its targets earlier and providing tangible near-term benefits for local communities.

Response to Comment 9-2

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. To the extent that the current proposal includes a three-year sunset on banked WAIRE Points, then warehouse operators would need to take more actions than are proposed by the commenter, and the analysis in the EA is conservative with regard to environmental impacts. As this comment is more related to the proposed rule rather than a CEQA comment, it will be responded to in the upcoming Draft Staff Report.

Comment 9-3

Projects to Reduce Emissions Should be Allowed to be Started Immediately (and still earn WAIRE points in the first year)

During the PR2305 CEQA Scoping Meeting on December 2, 2020, it was stated that the installation of ZE Charging or Onsite Solar Panels prior to the first period warehouses can begin earning WAIRE points would not count for WAIRE points to be earned in the first year (currently written as the period of July 1, 2020 through June 30, 2021 in Draft PR2305 for 200,000+sq ft warehouses).

Recommendation: Allow warehouses that want to move quickly to purchase ZE or NZE vehicles, or that wish to install ZE Charging stations or onsite solar panels, to install these during the period from the date Rule 2305 is final until the start of each facility's first year WAIRE points obligation period and still accrue the WAIRE points to be used in the first year. Owners and operators that want to move quickly to reduce emissions should not be forced to wait to gain WAIRE points when such actions would effectively reduce emissions in the South Coast region faster.

9-3

Response to Comment 9-3

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. As this comment is more related to the proposed rule rather than a CEQA comment, it will be responded to in the upcoming Draft Staff Report.

Comment 9-4

Consider Adding Flexibility to Account for the Availability of ZE and NZE Trucks and Infrastructure

Warehouse owners and operators may not have control of the availability of ZE and NZE Trucks that meet operational requirements or the availability of the infrastructure necessary in which to use them for their operations. The California Air Resources Board (CARB) recognized the need to add flexibilities to account for these types of situations in the Fleet Rule for Innovative Transit (2023.4).

Recommendation: SCAQMD may want to consider adding similar flexibilities to Proposed Rule 2305 should ZE or NZE trucks that meet operational requirements for warehouses not be readily available in quantities needed to satisfy the demand as a result of this proposed rule. Similarly, SCAQMD may want to consider adding flexibility to account for site-specific infrastructure barriers or delays that may be outside the control of warehouse owners and operators.

GM believes Proposed Rule 2305 will support emission reductions necessary in the South Coast region and pave our shared path to a Zero Emissions future. We believe the above comments and recommendations will make Rule 2305 more flexible for warehouse Owners and Operators and will lead to further emission reductions faster. Questions about the above comments and recommendations can be directed to me and/or Todd Rouse, Environmental Policy Manager, at 419-205-2667 or todd.rouse@gm.com. Thank you for your attention on this matter.

9-4

Response to Comment 9-4

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. However, it should be noted that to comply with the proposed project, a warehouse operator may choose from a variety of compliance strategies and actions on the WAIRE Menu to earn WAIRE points as discussed in Chapter 2, *Proposed Project*. As this comment is more related to the proposed rule rather than a CEQA comment, it will be responded to in the upcoming Draft Staff Report.

Comment Letter #10

Earthjustice; East Yard Communities For Environmental Justice; Natural Resources Defense Council; San Pedro & Peninsula Homeowners Coalition Sierra Club San Gorgonio Chapter; Urban & Environmental Policy Institute

December 15, 2020

EARTHJUSTICE
EAST YARD COMMUNITIES FOR ENVIRONMENTAL JUSTICE
NATURAL RESOURCES DEFENSE COUNCIL
SAN PEDRO & PENINSULA HOMEOWNERS COALITION
SIERRA CLUB SAN GORGONIO CHAPTER
URBAN & ENVIRONMENTAL POLICY INSTITUTE

December 15, 2020

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South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
rbanuelos@aqmd.gov

RE: Comments on Notice of Preparation of a Draft Environmental Assessment and Initial Study for Proposed Rule 2305 and Proposed Rule 316

Dear Mr. Bañuelos,

On behalf of the undersigned coalition of community and environmental organizations, we submit these comments on the South Coast Air Quality Management District's Notice of Preparation of a Draft Environmental Assessment and Initial Study (NOP/IS) for Proposed Rule 2305 and Proposed Rule 316.

We appreciate the opportunity to review the NOP/IS for the warehouse indirect source rule, a regulation that will have far-reaching health benefits in Southern California. The scope of the analysis, as identified in the document, is appropriate, and the "worst-case" approach employed in the NOP/IS offers a robust, comprehensive assessment of the potential adverse environmental impacts. To allow for full public participation and transparency, we request that all public comments on the NOP/IS be made available on the AQMD's website. 10-1

As stated in the NOP/IS, Proposed Rule 2305 is a critical regulatory measure that is necessary for the South Coast Air Basin to attain state and federal ambient air quality standards and meet greenhouse gas reduction targets.[1] Specifically, the purpose of the rule is to facilitate local and regional emission reductions from warehouses. Not only will this rule provide for necessary emission reductions, it is a long overdue move towards regulating an industry that imposes unacceptable health risks on nearby communities. The warehouse industry has been polluting overburdened communities for decades, and its continued growth in the region, particularly in the Inland Empire, will further perpetuate these harms absent meaningful and effective regulation. During the ongoing COVID-19 pandemic, warehouses are 10-2

[1] South Coast Air Quality Management District, Notice of Preparation of a Draft Environmental Assessment and Initial Study, Proposed Rules 2305 & 316, at 1-2, 1-16.

Comment Letter #10 (Continued)

Earthjustice; East Yard Communities For Environmental Justice; Natural Resources Defense Council; San Pedro & Peninsula Homeowners Coalition; Sierra Club San Gorgonio Chapter; Urban & Environmental Policy Institute

experiencing record profits while spewing toxic pollution in communities that are more vulnerable to the virus.[2] 10-2 cont.

This proposed rule has the potential to drastically reduce emissions of nitrogen oxides and particulate matter that disproportionately harm communities living near these facilities.[3] But importantly, any actions undertaken by warehouses pursuant to this rule must prioritize the surrounding communities who bear the brunt of pollution from warehouse activities, and incentivize solutions that will actually reduce these health burdens. 10-3

The undersigned organizations, which include community groups with members who are impacted by warehouse operations every day, have repeatedly stressed that zero-emissions technology is the only viable solution to alleviate the serious air pollution-related health risks imposed on communities by this industry. We support the greater weighting for the acquisition and use of zero-emission technology and infrastructure in the WAIRE menu, as a shift towards zero-emissions will be crucial to lessening any potential adverse impacts that the rule may have on air quality and greenhouse gas emissions. The rule should not provide incentives for near-zero technology because this will only detract from the zero-emissions future that our communities have advocated for and lead to more combustion technologies. 10-4

Moreover, the Air District must ensure that the mitigation fund does not allow regulated facilities to simply pay their way to compliance. A "pay-to-pollute" scheme will not bring about the emissions reductions necessary for the region to meet state and federal air quality standards nor address the disproportionate pollution burdens faced by communities living near these facilities. Public health protection, rather than industry concerns, must guide the development of the warehouse indirect source rule. 10-5

We request that the Air District continue to seek input from community stakeholders as the agency moves forward with this rulemaking. Furthermore, we urge the Air District to adopt the warehouse indirect source rule as expeditiously as possible, and no later than next June. 10-6

Thank you for your consideration of these comments. We appreciate the Air District staff's continued work on this lifesaving regulation and look forward to reviewing the draft Environmental Assessment.

Sincerely,

Regina Hsu
Adrian Martinez
Michelle Ghafar
Earthjustice
213-766-1059

[2] *See* Justin Ho, *As imports boom, warehouses fill up, and businesses face a storage shortage*, Marketplace (Oct. 1, 2020), https://www.marketplace.org/2020/10/01/imports-boom-warehouses-fill-up-businesses-face-storage-shortage-online-shopping-covid19/; Lisa Friedman, New Research Links Air Pollution to Higher Coronavirus Death Rates, New York Times (Apr. 7, 2020), *available at* https://www.nytimes.com/2020/04/07/climate/air-pollution-coronavirus-covid.html.

[3] *See id.* at 2-1; Union of Concerned Scientists, Inequitable Exposure to Air Pollution from Vehicles in California (Feb. 2019), at 1-2, https://www.ucsusa.org/sites/default/files/attach/2019/02/cv-air-pollution-CA-web.pdf.

Comment Letter #10 (Continued)

Earthjustice; East Yard Communities For Environmental Justice; Natural Resources Defense Council; San Pedro & Peninsula Homeowners Coalition; Sierra Club San Gorgonio Chapter; Urban & Environmental Policy Institute

Taylor Thomas
East Yard Communities for Environmental Justice

Heather Kryczka
Natural Resources Defense Council

Peter M. Warren
San Pedro & Peninsula Homeowners Coalition

Mary Ann Ruiz
Sierra Club San Gorgonio Chapter

Jessica Tovar
Urban & Environmental Policy Institute

cc: Victor Juan
Program Supervisor
South Coast Air Quality Management District

Comment 10-1

Dear Mr. Bañuelos,

On behalf of the undersigned coalition of community and environmental organizations, we submit these comments on the South Coast Air Quality Management District's Notice of Preparation of a Draft Environmental Assessment and Initial Study (NOP/IS) for Proposed Rule 2305 and Proposed Rule 316.

We appreciate the opportunity to review the NOP/IS for the warehouse indirect source rule, a regulation that will have far-reaching health benefits in Southern California. The scope of the analysis, as identified in the document, is appropriate, and the "worst-case" approach employed in the NOP/IS offers a robust, comprehensive assessment of the potential adverse environmental impacts. To allow for full public participation and transparency, we request that all public comments on the NOP/IS be made available on the AQMD's website.

10-1

Response to Comment 10-1

The approach used to analyze the environmental impacts from the proposed project is summarized in Chapter 4.0.1, *Overview of Impact Analysis*.

Public comments received on the NOP/IS are included in this appendix (Appendix C).

Comment 10-2

As stated in the NOP/IS, Proposed Rule 2305 is a critical regulatory measure that is necessary for the South Coast Air Basin to attain state and federal ambient air quality standards and meet greenhouse gas reduction targets.[1] Specifically, the purpose of the rule is to facilitate local and regional emission reductions from warehouses. Not only will this rule provide for necessary emission reductions, it is a long overdue move towards regulating an industry that imposes unacceptable health risks on nearby communities. The warehouse industry has been polluting overburdened communities for decades, and its continued growth in the region, particularly in the Inland Empire, will further perpetuate these harms absent meaningful and effective regulation. During the ongoing COVID-19 pandemic, warehouses are

10-2

[1] South Coast Air Quality Management District, Notice of Preparation of a Draft Environmental Assessment and Initial Study, Proposed Rules 2305 & 316, at 1-2, 1-16.

experiencing record profits while spewing toxic pollution in communities that are more vulnerable to the virus.[2]

10-2 cont.

[2] *See* Justin Ho, *As imports boom, warehouses fill up, and businesses face a storage shortage*, Marketplace (Oct. 1, 2020), https://www.marketplace.org/2020/10/01/imports-boom-warehouses-fill-up-businesses-face-storage-shortage-online-shopping-covid19/; Lisa Friedman, New Research Links Air Pollution to Higher Coronavirus Death Rates, New York Times (Apr. 7, 2020), *available at* https://www.nytimes.com/2020/04/07/climate/air-pollution-coronavirus-covid.html.

Response to Comment 10-2

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. No further response is necessary.

Comment 10-3

This proposed rule has the potential to drastically reduce emissions of nitrogen oxides and particulate matter that disproportionately harm communities living near these facilities.[3] But importantly, any actions undertaken by warehouses pursuant to this rule must prioritize the surrounding communities who bear the brunt of pollution from warehouse activities, and incentivize solutions that will actually reduce these health burdens. 10-3

[3] *See id.* at 2-1; Union of Concerned Scientists, Inequitable Exposure to Air Pollution from Vehicles in California (Feb. 2019), at 1-2, https://www.ucsusa.org/sites/default/files/attach/2019/02/cv-air-pollution-CA-web.pdf.

Response to Comment 10-3

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. No further response is necessary.

Comment 10-4

The undersigned organizations, which include community groups with members who are impacted by warehouse operations every day, have repeatedly stressed that zero-emissions technology is the only viable solution to alleviate the serious air pollution-related health risks imposed on communities by this industry. We support the greater weighting for the acquisition and use of zero-emission technology and infrastructure in the WAIRE menu, as a shift towards zero-emissions will be crucial to lessening any potential adverse impacts that the rule may have on air quality and greenhouse gas emissions. The rule should not provide incentives for near-zero technology because this will only detract from the zero-emissions future that our communities have advocated for and lead to more combustion technologies. 10-4

Response to Comment 10-4

The use of ZE technology as the single, sole compliance option is included as an alternative to the proposed project and analyzed in Chapter 5, *Alternatives*. At the public hearing, the South Coast AQMD's Governing Board may choose to adopt the proposed project or to adopt a version of the rule such as one of the alternatives analyzed in Chapter 5, *Alternatives*.

Comment 10-5

Moreover, the Air District must ensure that the mitigation fund does not allow regulated facilities to simply pay their way to compliance. A "pay-to-pollute" scheme will not bring about the emissions reductions necessary for the region to meet state and federal air quality standards nor address the disproportionate pollution burdens faced by communities living near these facilities. Public health protection, rather than industry concerns, must guide the development of the warehouse indirect source rule. 10-5

Response to Comment 10-5

A "pay-to-pollute" structure is included as one of the areas of controversy raised by the public in Chapter 1.4, *Areas of Controversy*. While compliance options provide flexibility, there are constraints associated with transferring of WAIRE points as ways to prevent a "pay-to-pollute" structure. Additionally, fees collected will create a new source of funds to reduce pollution in the communities impacted by vehicles and other emissions sources associated with warehouses. Use of the mitigation fees will be prioritized in areas near the warehouses using this compliance option.

Comment 10-6

We request that the Air District continue to seek input from community stakeholders as the agency moves forward with this rulemaking. Furthermore, we urge the Air District to adopt the warehouse indirect source rule as expeditiously as possible, and no later than next June. 10-6

Thank you for your consideration of these comments. We appreciate the Air District staff's continued work on this lifesaving regulation and look forward to reviewing the draft Environmental Assessment.

Response to Comment 10-6

An overview of the various public meetings held in regard to the proposed project is detailed in Chapter 2, *Proposed Project*. In addition, the NOP/IS was released for a 32-day public review and comment period between November 13, 2020 and December 15, 2020. The Draft EA will be released for public review and comment period of no less than 45 days. The proposed project is currently planned to be presented to the South Coast AQMD's Governing Board for consideration for adoption at the April 2, 2021 meeting (date may be subject to change).

Comment Letter #11
Coalition for Clean Air
December 15, 2020

December 15, 2020

Ryan Bañuelos
Air Quality Specialist
South Coast Air Quality Management District (SCAQMD)
21865 Copley Drive
Diamond Bar CA 91765

Re: Comment on the Notice of Preparation (NOP) of the Draft Environmental Assessment and Initial Study (IS) for Proposed Rule 2305 – Warehouse Indirect Source Rule

Dear Mr. Bañuelos,

The Coalition for Clean Air (CCA) is writing in response to the Notice of Preparation (NOP) of the Draft Environmental Assessment (EA) and Initial Study (IS) for Proposed Rule (PR) 2305, the Warehouse Indirect Source Rule (ISR.) While we appreciate the work and the general direction of proposed language for PR 2305, we do have comments and concerns about the California Environmental Quality Act (CEQA) process. Our comments follow below: 11-1

Comment #1: The stringency of the points provision has yet to be determined. Absent complete information about the actual rule, SCAQMD cannot accurately assess its environmental impacts.

CEQA requires informed analyses and decisions. Yet, SCAQMD has not yet determined the stringency for PR 2305's points provision. The December 2, 2020 presentation only states: "Staff recommended stringency will be established before Draft Environmental Assessment is published."[1] The status over stringency becomes more muddled considering prior presentations. For example, the March 3, 2020 presentation stated SCAQMD intends to analyze stringency in the range of .0001 to .005.[2] A more recent presentation, however, refers to "hypothetical stringency" compliance scenarios ranging from .0002-.001.[3] The stringency factor(s) should be known and publicly available prior to the Draft Environmental Assessment being conducted. This is especially important as SCAQMD plans to phase in rule stringency over time. 11-2

[1] SCAQMD, Proposed Rule 2305 – *Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program; and Proposed Rule 316 – Fees for Regulation XXIII CEQA Scoping Meeting,* December 2, 2020 (accessed December 15, 2020), http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/2305/pr2305pr316_ceqascoping_120220.pdf?sfvrsn=12, slide 14
[2] SCAQMD, *Warehouse ISR Working Group,* March 3, 2020 (accessed December 15, 2020), http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/whse_isr_slides_3-3-2020.pdf?sfvrsn=6, slide 15
[3] SCAQMD, *Warehouse ISR Working Group,* October 30, 2020 (accessed December 15, 2020), http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/presentation-slides-10-30-2020.pdf?sfvrsn=8, slide 3

Comment Letter #11 (Continued)
Coalition for Clean Air

Further, not having a defined or even estimated stringency does not provide a full, accurate and consistent description of the project or its environmental impacts. 11-2

Comment #2: Dividing the warehouse and rail yard ISRs, along with Memoranda of Understanding with the ports and airports, could be interpreted as piecemealing. SCAQMD should demonstrate how these separate rules and efforts interact with each other to reduce emissions from the goods movement sector.

Initially, rules governing over warehouses were considered in the context of a suite of mobile source freight measures. While we understand that each indirect source requires different strategies to reduce emissions, the goods movement industry is tightly interconnected. Goods entering or leaving the ports will also be warehoused and transported by truck, rail, and/or air within the South Coast Air Basin. As such, PR 2305 and all other Facility-Based Mobile Source Measures should demonstrate how they interact with each other and reduce emissions from the goods movement industry. This is particularly important given the District's need to meet attainment of National Ambient Air Quality Standards as well as reduce diesel particulate matter throughout the South Coast Basin. 11-3

Ultimately, the warehouse ISR and all Facility-Based Mobile Source Measurements must achieve real, meaningful, and expedient emissions reductions in the South Coast Air Basin. Thank you for your consideration of our comments.

Sincerely,

Christopher Chavez
Deputy Policy Director

Cc:
Ian McMillan, Planning and Rules Manager, SCAQMD
Victor Juan, Program Supervisor, SCAQMD

Comment 11-1

Dear Mr. Bañuelos,

The Coalition for Clean Air (CCA) is writing in response to the Notice of Preparation (NOP) of the Draft Environmental Assessment (EA) and Initial Study (IS) for Proposed Rule (PR) 2305, the Warehouse Indirect Source Rule (ISR.) While we appreciate the work and the general direction of proposed language for PR 2305, we do have comments and concerns about the California Environmental Quality Act (CEQA) process. Our comments follow below: 11-1

Response to Comment 11-1

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. No further response is necessary.

Comment 11-2

Comment #1: The stringency of the points provision has yet to be determined. Absent complete information about the actual rule, SCAQMD cannot accurately assess its environmental impacts.

CEQA requires informed analyses and decisions. Yet, SCAQMD has not yet determined the stringency for PR 2305's points provision. The December 2, 2020 presentation only states: "Staff recommended stringency will be established before Draft Environmental Assessment is published."[1] The status over stringency becomes more muddled considering prior presentations. For example, the March 3, 2020 presentation stated SCAQMD intends to analyze stringency in the range of .0001 to .005.[2] A more recent presentation, however, refers to "hypothetical stringency" compliance scenarios ranging from .0002-.001.[3] The stringency factor(s) should be known and publicly available prior to the Draft Environmental Assessment being conducted. This is especially important as SCAQMD plans to phase in rule stringency over time. 11-2

Further, not having a defined or even estimated stringency does not provide a full, accurate and consistent description of the project or its environmental impacts. 11-2

Response to Comment 11-2

The proposed project currently proposed rule stringency factor of 0.0025 WAIRE Points per WATT was presented and discussed in the Warehouse ISR Working Group Meetings held on December 17, 2020[20] and is included in the Preliminary Draft Staff Report. A discussion of stringency is included in Chapter 2, *Proposed Project*. Chapter 4, *Environmental Impact Analysis and Mitigation Measures* includes an analysis of the proposed project's potential direct, indirect, and cumulative environmental impacts from compliance responses on air quality and GHG emissions, energy, hazardous materials and solid and hazardous waste from increased disposal of batteries and hydrogen fuel cells, and transportation.

[20] South Coast AQMD, December 17, 2020, Warehouse ISR Working Group. Accessed on December, 18, 2020. https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/warehouse-isr-presentation-121720.pdf

Comment 11-3

Comment #2: Dividing the warehouse and rail yard ISRs, along with Memoranda of Understanding with the ports and airports, could be interpreted as piecemealing. SCAQMD should demonstrate how these separate rules and efforts interact with each other to reduce emissions from the goods movement sector.

Initially, rules governing over warehouses were considered in the context of a suite of mobile source freight measures. While we understand that each indirect source requires different strategies to reduce emissions, the goods movement industry is tightly interconnected. Goods entering or leaving the ports will also be warehoused and transported by truck, rail, and/or air within the South Coast Air Basin. As such, PR 2305 and all other Facility-Based Mobile Source Measures should demonstrate how they interact with each other and reduce emissions from the goods movement industry. This is particularly important given the District's need to meet attainment of National Ambient Air Quality Standards as well as reduce diesel particulate matter throughout the South Coast Basin. 11-3

Ultimately, the warehouse ISR and all Facility-Based Mobile Source Measurements must achieve real, meaningful, and expedient emissions reductions in the South Coast Air Basin. Thank you for your consideration of our comments.

Response to Comment 11-3

As discussed in Chapter 1, *Background*, South Coast AQMD is required to adopt an air quality management plan (AQMP) demonstrating how measures taken will ensure attainment of all federal ambient air quality standards for the areas under the South Coast AQMD's jurisdiction. To meet air pollution reduction goals, the 2016 AQMP contains a variety of control measures, including Facility Based Mobile Source Measures (FBMSMs), also known as indirect source measures or rules. The FBMSMs described in the 2016 AQMPD are concentrated on the four sectors of the goods movement industry: commercial marine ports, rail yards, warehouse distribution centers, and commercial airports. Of these FBMSMs, Control Measure MOB-03 – Emissions Reductions at Warehouse Distribution Centers committed to exploring how to achieve emissions reductions from the warehouse sector.

Additionally, after the adoption of the 2016 AQMP, South Coast AQMD staff convened a working group to explore potential voluntary and regulatory approaches for warehouses[21], consistent with what was outlined in the 2016 AQMP for Control Measure MOB-03. In May 2018, the South Coast AQMD's Governing Board directed staff to initiate rulemaking for a warehouse Indirect Source Rule (ISR)[22], namely PR 2305 and PR 316. Although the FBMSMs are being undertaken in separate rulemaking efforts, this does not constitute piecemealing. The piecemeal review under CEQA is based on if there is substantial evidence in the record that future decisions linked in some way and do not exhibit independent utility. Since the four sectors of the goods movement industry are unique and have taken on different approaches (incentives-based or rulemaking) because of the different, independent sectors they affect, implementing FBMSMs for railyards, ports, and airports is not linked to the proposed project.

[21] Presentation materials from this process are available here: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures/fbmsm-mtngs

[22] http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-may4-032.pdf
http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-jun1-001.pdf

Comment Letter #12
Inland Empire Economic Partnership and the Southern California Logistics Council
December 15, 2020

December 15, 2020

Mr. Ryan Bañuelos
c/o CEQA
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-4178

Re: COMMENTS ON NOTICE OF PREPARATION AND INITIAL STUDY FOR PROPOSED RULE 2305

Dear Mr. Bañuelos:

On behalf of the Inland Empire Economic Partnership (IEEP) and the Southern California Logistics Council (SCLC), I write to submit comments on the notice of preparation and initial study for proposed rule 2305 – warehouse indirect source rule - warehouse actions and investments to reduce emissions (WAIRE) program; and proposed rule 316 – fees for regulation xxiii.

IEEP's mission is to serve as the two-county region's voice for business and quality of life. Our membership, a collection of large employers in the private and public sectors, is dedicated to creating economic opportunities that promote a better quality of life for our region of 4.6 million people. The SCLC works to address issues facing the logistics industry throughout Southern California. The goods movement industry represents almost 195,000 workers in San Bernardino and Riverside counties and is the largest employment sector in the region. A significant portion of our membership is involved on a daily basis in the support and development of distribution warehouses that are integral to the Southern California logistics industry. As such, we bring a unique perspective that has helped identify a number of points of concern. 12-1

The proposed rule has the potential to undermine an industry that has been critical to the health and economic well-being of the Inland Empire region. The logistics industry has and continues to play a key role in our response to the COVID-19 pandemic—not only in the distribution of medical supplies, vaccines, and equipment, but also in the delivery of goods to a public that has become increasingly dependent on e-commerce. The logistics industry has also helped the Inland Empire weather the economic fallout resulting from the pandemic. The South Coast Air Quality Management District (AQMD) should explain why it is pursuing a regulation targeting an essential sector that serves as a lifeline to our region and the Nation in the midst of the COVID-19 pandemic. As drafted, this regulation has the potential to result in severe impacts to this crucial industry at a time in which we can least afford it. 12-2

Comment Letter #12 (Continued)
Inland Empire Economic Partnership and the Southern California Logistics Council

The proposed rule sets timeframes that make it virtually impossible for most distribution warehouse operators to comply. Under the draft rule, reporting obligations begin only 60 days from rule adoption, and the substantive WAIRE Points obligations will commence as soon as July, 2021. Many warehouse operators are not structured or staffed with the systems and personnel needed to comply with the proposed rule. They generally lack personnel with the expertise to distinguish among the various classes of trucks, and they lack systems needed to gather the information required to be reported. It will divert industry resources and attention to this rule at a time when the industry needs to maintain focus on the efficient and reliable delivery of medical supplies, vaccines, equipment, food, and other essential goods. 12-3

The proposed rule fails to target the source of pollution. The AQMD has stated over the years that warehouses and distribution centers are not a significant source of pollution. Rather, it is the cars and trucks that come to their facility that are the source of pollution. However, instead of examining alternatives such as stricter engine emission standards by the California Air Resources Board, or requiring owners of truck fleets to phase in zero-emission and near zero-emission vehicles it places the onus on an industry that often times does not have a say on the types of trucks that arrive at their facility. AQMD should focus its efforts on targeting mobile sources of pollution that are the source of the problem. While AQMD does not have the statutory authority to regulate mobile sources, it can advocate for policies on the state and national levels that will help that district come into compliance with state and federal goals. 12-4

IEEP supports efforts to improve the air quality in our communities. We believe the approach proposed in the aforementioned rule is not the correct way to achieve those improvements. Thank you.

Sincerely,

Luis Portillo
Director of Public Policy
Inland Empire Economic Partnership

Comment 12-1

On behalf of the Inland Empire Economic Partnership (IEEP) and the Southern California Logistics Council (SCLC), I write to submit comments on the notice of preparation and initial study for proposed rule 2305 – warehouse indirect source rule - warehouse actions and investments to reduce emissions (WAIRE) program; and proposed rule 316 – fees for regulation xxiii.

IEEP's mission is to serve as the two-county region's voice for business and quality of life. Our membership, a collection of large employers in the private and public sectors, is dedicated to creating economic opportunities that promote a better quality of life for our region of 4.6 million people. The SCLC works to address issues facing the logistics industry throughout Southern California. The goods movement industry represents almost 195,000 workers in San Bernardino and Riverside counties and is the largest employment sector in the region. A significant portion of our membership is involved on a daily basis in the support and development of distribution warehouses that are integral to the Southern California logistics industry. As such, we bring a unique perspective that has helped identify a number of points of concern. 12-1

Response to Comment 12-1

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. No further response is necessary. As this comment is more related to the proposed rule rather than a CEQA comment, it will be responded to in the upcoming Draft Staff Report.

Comment 12-2

The proposed rule has the potential to undermine an industry that has been critical to the health and economic well-being of the Inland Empire region. The logistics industry has and continues to play a key role in our response to the COVID-19 pandemic—not only in the distribution of medical supplies, vaccines, and equipment, but also in the delivery of goods to a public that has become increasingly dependent on e-commerce. The logistics industry has also helped the Inland Empire weather the economic fallout resulting from the pandemic. The South Coast Air Quality Management District (AQMD) should explain why it is pursuing a regulation targeting an essential sector that serves as a lifeline to our region and the Nation in the midst of the COVID-19 pandemic. As drafted, this regulation has the potential to result in severe impacts to this crucial industry at a time in which we can least afford it. 12-2

Response to Comment 12-2

The need for the proposed project is addressed in Chapter 1 of the Preliminary Draft Staff Report[23]. This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. In addition, Chapter 5, *Alternatives* includes a "no project" alternative and at the public hearing, the Governing Board may choose to adopt the proposed project or to adopt a version of the rule such as one of the alternatives analyzed in Chapter 5, *Alternatives*.

Chapter 4, *Environmental Impact Analysis and Mitigation Measures* includes an analysis of the proposed project's potential direct, indirect, and cumulative environmental impacts from compliance responses on air quality and GHG emissions, energy, hazardous materials and solid and hazardous waste from increased disposal of batteries and hydrogen fuel cells, and

[23] http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/preliminary-draft-staff-report.pdf

transportation. As this comment is more related to the proposed rule rather than a CEQA comment, it will be responded to in the upcoming Draft Staff Report.

Comment 12-3

> **The proposed rule sets timeframes that make it virtually impossible for most distribution warehouse operators to comply.** Under the draft rule, reporting obligations begin only 60 days from rule adoption, and the substantive WAIRE Points obligations will commence as soon as July, 2021. Many warehouse operators are not structured or staffed with the systems and personnel needed to comply with the proposed rule. They generally lack personnel with the expertise to distinguish among the various classes of trucks, and they lack systems needed to gather the information required to be reported. It will divert industry resources and attention to this rule at a time when the industry needs to maintain focus on the efficient and reliable delivery of medical supplies, vaccines, equipment, food, and other essential goods. 12-3

Response to Comment 12-3

This comment does not raise any issues related to the proposed project's impact on the physical environment under CEQA. As this comment is more related to the proposed rule rather than a CEQA comment, it will be responded to in the upcoming Draft Staff Report.

Comment 12-4

> **The proposed rule fails to target the source of pollution.** The AQMD has stated over the years that warehouses and distribution centers are not a significant source of pollution. Rather, it is the cars and trucks that come to their facility that are the source of pollution. However, instead of examining alternatives such as stricter engine emission standards by the California Air Resources Board, or requiring owners of truck fleets to phase in zero-emission and near zero-emission vehicles it places the onus on an industry that often times does not have a say on the types of trucks that arrive at their facility. AQMD should focus its efforts on targeting mobile sources of pollution that are the source of the problem. While AQMD does not have the statutory authority to regulate mobile sources, it can advocate for policies on the state and national levels that will help that district come into compliance with state and federal goals. 12-4
>
> IEEP supports efforts to improve the air quality in our communities. We believe the approach proposed in the aforementioned rule is not the correct way to achieve those improvements. Thank you.

Response to Comment 12-4

The proposed project seeks to achieve emission reductions of NOx and PM, including DPM, from the mobile sources of pollution that visit warehouses by allowing warehouse operators to choose from a variety of compliance options. These compliance options are focused on achieving emission reductions from the mobile sources which are the sources of pollution or exposure reductions from the emissions of those emission sources. The suggestions for other emission reduction strategies by the commenter are also being pursued in parallel with the proposed project. Additional discussion is included in the Preliminary Draft Staff Report.

Comment Received During the Scoping Meeting on December 2, 2020

Summary of Scoping Meeting Comment
Frances Keeler, California Council for Environmental and Economic Balance (CCEEB): How are you handling diesel trucks that are being replaced with EV trucks? What are the impacts from diesel trucks being transferred somewhere else?

Response to Scoping Meeting Comment
The transition to NZE and ZE trucks is discussed in Chapter 4.1.3.3, *Transition to NZE and ZE Trucks (Scenarios 1-6, 8-10, 12-14)* of the EA. In addition, as identified in the Draft WAIRE Menu Technical Report it is anticipated that the operating life of a truck is, on average, 12 years. The general characteristics and operations of truck fleets that serve the South Coast AQMD's jurisdiction are summarized in the Technical Memorandum on Truck Fleets that Serve Warehouses in SCAQMD Jurisdiction prepared by CALSTART[4]. It is anticipated that when warehouse operators replace trucks with NZE and ZE trucks some of the older trucks will be retired (i.e., scrapped) and some of these trucks would be transitioned to other uses or warehouses outside of South Coast AQMD's jurisdiction for trucks that are no longer eligible to access the San Pedro Bay Ports. However, even in this instance where the trucks are transitioned to other uses, it can be presumed that they would replace even older, higher emissions trucks in an operator's truck fleet. This assumption is based on the fact that the proposed project does not generate an increase in the national or even international demand for trucks used in the goods movement sector. Thus, operators that purchase the trucks replaced by NZE and ZE trucks pursuant to the proposed project would be replacing an existing truck that has aged out of or is nearing the end its useful life. These assumptions support the conclusion that the proposed project would result in a greater turnover of diesel trucks to NZE and ZE trucks than would have occurred without implementation of the proposed project, and that there would be an emissions benefit from the proposed project due to its incentives for replacing older trucks with newer ones. Regardless of whether or not trucks are retired or transferred, there would be a reduction in emissions from replacement of an older truck. These potential reductions as a direct result of the proposed project are captured in the scenario modeling shown in Table 4.1-6 in the EA.

In addition, after the year 2023 the baseline fleet of trucks that are replaced are the same as the baseline fleet of trucks throughout the State due to CARB's Truck and Bus Rule[24]. Therefore, the majority of trucks in the state would be post-2010 trucks. In the event that a truck is sold early, prior to the end of its useful life, in order to purchase a new ZE truck for compliance with the WAIRE Program and the existing truck is sold elsewhere in the state, then the existing truck sold would be equal to the baseline fleet. Since the existing truck is still part of the baseline fleet in the state there would be no change in state-wide emissions. In addition, in the event that the oldest and most polluting truck is replaced, it is speculative to assume that if the oldest and most polluting truck is sold elsewhere in the state that it would be more polluting than the baseline fleet in that location regardless of where it is sold. Further, deployment of ZE and NZE trucks as a result of compliance with PR 2305 does not restrict the use of ZE and NZE trucks to South Coast AQMD's jurisdiction. Therefore, it can be reasonably expected that ZE and NZE trucks will travel to other

[24] California Air Resources Board, Truck and Bus Regulation. Accessed on 12/18/2020. https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation/about

jurisdictions throughout the state (and potentially other states) to deliver goods and would create an air quality benefit.

It should also be noted that compliance with the proposed project does not increase the number of trucks or truck trips from the baseline of trucks in the South Coast AQMD. If truck owners are selling trucks outside of the South Coast AQMD or out of state, then these trucks are from businesses that are replacing trucks and are not being sold as a result of compliance with the proposed project.

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APPENDIX D

CalEEMod® Files and Assumptions

WAIRE Program Air Quality and Greenhouse Gas Appendix

Air Quality and Greenhouse Gas Emissions:

Final Year Compliance Summary Sheets

Summary of GHG Emissions from the Proposed Project at Compliance Year 10

Activity	Compliance Year 2031 CO_2eq (MT/year[a])
Scenario 1	
GHG Emissions Reduction Benefits from Scenario 1	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 2	
GHG Emissions Reduction Benefits from Scenario 2	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 3	
GHG Emissions Reduction Benefits from Scenario 3	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 4	
GHG Emissions Reduction Benefits from Scenario 4	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 5	
GHG Emissions Reduction Benefits from Scenario 5	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 6 – ZE Charger Installation and Electric Trucks	
ZE Charger Installation Amortized Over 30 Years	430
GHG Emissions Reduction Benefits from Scenario 6	-550,116
Worst Case (Up to Three) Relocation Impacts	5,902
Electricity from ZE Trucks (847 GWh)	126,352
Total	**-417,432**
Significance Threshold	10,000
Exceed Significance?	**NO**

Summary of GHG Emissions from the Proposed Project at Compliance Year 10

Activity	Compliance Year 2031 CO_2eq (MT/year[a])
Scenario 7	
GHG Emissions Reduction Benefits from Scenario 7	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 8	
GHG Emissions Reduction Benefits from Scenario 8	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 9	
GHG Emissions Reduction Benefits from Scenario 9	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 10	
GHG Emissions Reduction Benefits from Scenario 9	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 11 – Solar Panels	
GHG Emissions Reduction Benefits from Scenario 11 (11,044 Gwh)	-2,234,150
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**-2,228,248**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 12 – Hydrogen Fueling Infrastructure and Trucks	
Hydrogen Fueling Infrastructure Installation Amortized Over 30 Years	2,512
GHG Emissions Reduction Benefits from Scenario 12	-512,184
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**-503,770**
Significance Threshold	10,000
Exceed Significance?	**NO**

Summary of GHG Emissions from the Proposed Project at Compliance Year 10

Activity	Compliance Year 2031 CO_2eq (MT/year[a])
Scenario 13	
GHG Emissions Reduction Benefits from Scenario 13	-579,473
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**-573,571**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 14	
GHG Emissions Reduction Benefits from Scenario 14	-585,605
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**-579,703**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 15 – High Efficiency Filtration Systems	
Electricity from MERV-16 HVACs (746 GWh)	111,379
GHG Emissions Reduction Benefits from Scenario 15	0
Worst Case (Up to Three) Relocation Impacts	4,328
Total	**115,707**
Significance Threshold	10,000
Exceed Significance?	**YES**
Scenario 16	
GHG Emissions Reduction Benefits from Scenario 16	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 17	
GHG Emissions Reduction Benefits from Scenario 17	0
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**5,902**
Significance Threshold	10,000
Exceed Significance?	**NO**
Scenario 18 – ZE Cargo Handling Equipment	
Electricity from ZE Cargo Handling Equipment	22,255
GHG Emissions Reduction Benefits from Scenario 18	-169,723
Worst Case (Up to Three) Relocation Impacts	5,902
Total	**-141,566**
Significance Threshold	10,000
Exceed Significance?	**NO**

Compliance Year 10 (Year 2031) AQ Summary

Scenario	NOx Reduction (lbs/day)	Up to Three Relocations NOx (lbs/day)	Construction NOx Year 2031 (lbs/day)	Total NOx (lbs/day)	Threshold NOx	Exceeds Threshold
Scenario 1	5,995	73.6	0	-5,921	55	No
Scenario 2	5,854	73.6	0	-5,780	55	No
Scenario 3	6,802	73.6	0	-6,728	55	No
Scenario 4	4,815	73.6	0	-4,741	55	No
Scenario 5	7,059	73.6	0	-6,985	55	No
Scenario 6	3,554	73.6	15	-3,465	55	No
Scenario 7	43,528	73.6	0	-43,454	55	No
Scenario 8	6,906	73.6	0	-6,832	55	No
Scenario 9	7,032	73.6	0	-6,958	55	No
Scenario 10	8,362	73.6	0	-8,288	55	No
Scenario 11	40,618	73.6	0	-40,544	55	No
Scenario 12	5,695	73.6	49	-5,572	55	No
Scenario 13	1,758	73.6	0	-1,684	55	No
Scenario 14	1,778	73.6	0	-1,704	55	No
Scenario 15	0	73.6	0	74	55	Yes
Scenario 16	0	73.6	0	74	55	Yes
Scenario 17	130	73.6	0	-56	55	No
Scenario 18	200	73.6	0	-126	55	No
Max. Potential Reduction	**43,528**					
Min. Potential Reduction	**0**					

PM10 Reduction (lbs/day)	Up to Three Relocations PM10 (lbs/day)	Construction PM10 Year 2031 (lbs/day	Total NOx (lbs/day)	Threshold NOx	Exceeds Threshold
48	0.6	0	-47.4	55	No
47	0.6	0	-46.4	55	No
47	0.6	0	-46.4	55	No
39	0.6	0	-38.4	55	No
49	0.6	0	-48.4	55	No
18	0.6	1	-16.4	55	No
18	0.6	0	-17.4	55	No
42	0.6	0	-41.4	55	No
42	0.6	0	-41.4	55	No
45	0.6	0	-44.4	55	No
0	0.6	0	0.6	55	No
40	0.6	2	-37.4	55	No
37	0.6	0	-36.4	55	No
38	0.6	0	-37.4	55	No
0	0.6	0	0.6	55	No
0	0.6	0	0.6	55	No
0	0.6	0	0.6	55	No
7	0.6	0	-6.4	55	No
49					
0					

FINAL YEAR (2031) GHG BENEFITS

Scenario	GHG Reduction (MTCO2e/year)
Scenario 1	0
Scenario 2	0
Scenario 3	0
Scenario 4	0
Scenario 5	0
Scenario 6	550,116
Scenario 7	0
Scenario 8	0
Scenario 9	0
Scenario 10	0
Scenario 11	2,234,150
Scenario 12	512,184
Scenario 13	579,473
Scenario 14	585,605
Scenario 15	0
Scenario 16	0
Scenario 17	0
Scenario 18	169,723
Max. Potential Reduction	**2,234,150**
Min. Potential Reduction	**0**

Energy Consumption Calculations

Electric Truck Energy Consumption

Southern California Edison Carbon Intensity Factors

SCE CO_2e Intensity Factor[1] 329 pounds per megawatt hour

CO2:[1,3]	326	pounds per megawatt hour
CH4:[4]	0.029	pound per megawatt hour
N2O:[4]	0.00617	pound per megawatt hour

[1] Based on CO2e intensity factor of 534 pounds per megawatt hour and adjusted to reflect Senate Bill 100 ; Southern California Edison. 2020. 2019 Sustainability Report. https://www.edison.com/content/dam/eix/documents/sustainability/eix-2019-sustainability-report.pdf

[2] For purposes of the analysis, as the project has a buildout year of 2026, it is anticipated that SCE would meet the 2024 RPS target of 44 percent renewables as established under Senate Bill 100.

[3] Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

[4] CalEEMod default values.

Global Warming Potentials (GWP)

	AR4	AR5
CO_2	1	1
CH_4	25	28
N_2O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC).

Conversion Factors (MT/kWh)

CO_2***	CH_4***	N_2O***	CO_2e	CO_2e
lbs/Mwh	lbs/Mwh	lbs/Mwh	lbs/Mwh	MT/Kwh
326	0.72500	1.83866	329.00	0.000149

 # Trucks (Number of trucks bought in each year)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10
Sc6- Chargers	1,863	1,045	1,254	169	195	195	195	195	195	195
# Class 6 Trucks										
Sc6	0	4,460	6,577	4,362	3,714	2,071	2,018	1,843	1,839	1,207
# Class 8 Trucks										
Sc6	0	5	81	168	95	49	25	25	19	11

Truck Energy Use (kWh/day)[1]: 6.53 **Operational Days/Year:** 365

[1] *Green Transportation Summit & Expo. 2018, April 17. Making Electrification Work: How to Successfully Deploy HDEVs A Yard Truck Case Study. https://www.gtsummitexpo.socialenterprises.net/program/2018presentations/MikeSaxton.pdf*

Electric Truck Energy Use (kWh)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10
# Class 6 Trucks										
Sc6	0	0	133,505,106	330,380,237	460,951,823	572,126,255	634,119,321	694,525,891	749,694,033	804,742,439
# Class 8 Trucks										
Sc6	0	0	449,013	7,723,028	22,809,874	31,341,126	35,741,456	37,986,522	40,231,589	41,937,839

Electric Truck Energy Use (MWh)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10
# Class 6 Trucks										
Sc6	0	0	133,505	330,380	460,952	572,126	634,119	694,526	749,694	804,742
# Class 8 Trucks										
Sc6	0	0	449	7,723	22,810	31,341	35,741	37,987	40,232	41,938

Electric Truck Energy Use (GWh)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10
# Class 6 Trucks										
Sc6	0.000	0.000	133.505	330.380	460.952	572.126	634.119	694.526	749.694	804.742
# Class 8 Trucks										
Sc6	0.000	0.000	0.449	7.723	22.810	31.341	35.741	37.987	40.232	41.938
TOTAL GWh	**0.000**	**0.000**	**133.954**	**338.103**	**483.762**	**603.467**	**669.861**	**732.512**	**789.926**	**846.680**

Electric Truck Energy Use (GHG)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10
# Class 6 Trucks										
Sc6	0	0	19,923	49,303	68,789	85,379	94,631	103,645	111,878	120,093
# Class 8 Trucks										
Sc6	0	0	67	1,153	3,404	4,677	5,334	5,669	6,004	6,258
TOTAL GHG (MTCO2e/year)	**0**	**0**	**19,990**	**50,456**	**72,193**	**90,057**	**99,965**	**109,314**	**117,882**	**126,352**

Solar Productions GHG Benefits

Southern California Edison Carbon Intensity Factors

SCE CO_2e Intensity Factor[1] 329 pounds per megawatt hour

CO2:[1,3]	326	pounds per megawatt hour
CH4:[4]	0.029	pound per megawatt hour
N2O:[4]	0.00617	pound per megawatt hour

[1] Based on CO_2e intensity factor of 534 pounds per megawatt hour; Southern California Edison. 2020. 2019 Sustainability Report.
[2] For purposes of the analysis, as the project has a buildout year of 2031, it is anticipated that SCE would meet the 2030 RPS target of 60 percent renewables as established under Senate Bill 100.
[3] Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.
[4] CalEEMod default values.

Global Warming Potentials (GWP)

	AR4	AR5
CO_2	1	1
CH_4	25	28
N_2O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC).

Conversion Factors (MT/kWh)

CO_2***	CH_4***	N_2O***	CO_2e	CO_2e
lbs/Mwh	lbs/Mwh	lbs/Mwh	lbs/Mwh	MT/Kwh
326	0.72500	1.83866	329.00	0.000149

Solar Energy Offsets (kWh)

	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10
Solar Usage - Capacity										
Sc11	592,234	1,188,593	2,297,618	1,025,073	812,598	451,867	108,374	108,374	108,374	108,374
Solar Usage - kWh										
Sc11	0	977,186,100	2,938,364,092	6,729,434,194	8,420,805,227	9,761,591,328	10,507,172,173	10,685,989,261	10,864,806,349	11,043,623,438

Solar Energy Offsets (GWh)

	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10
Solar Usage - Capacity										
Sc11	0.592	1.189	2.298	1.025	0.813	0.452	0.108	0.108	0.108	0.108
Solar Usage - GWh										
Sc11	0	977	2,938	6,729	8,421	9,762	10,507	10,686	10,865	11,044

Solar Energy Offsets (MTCO2e)

	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10
Solar Usage - Capacity										
Sc11	86	177	343	153	121	67	16	16	16	16
Solar Usage										
Sc11	0	145,827	438,498	1,004,246	1,256,653	1,456,741	1,568,005	1,594,690	1,621,376	1,648,061

High Efficiency Filtration Systems

Southern California Edison Carbon Intensity Factors

SCE CO_2e Intensity Factor[1] 329 pounds per megawatt hour

CO2:[1,3]	326.43634	pounds per megawatt hour
CH4:[4]	0.029	pound per megawatt hour
N2O:[4]	0.00617	pound per megawatt hour

[1] Based on CO2e intensity factor of 534 pounds per megawatt hour and adjusted to reflect Senate Bill 100 ; Southern California Edison. 2020. 2019 Sustainability Report. https://www.edison.com/content/dam/eix/documents/sustainability/eix-2019-sustainability-report.pdf

[2] For purposes of the analysis, as the project has a buildout year of 2026, it is anticipated that SCE would meet the 2024 RPS target of 44 percent renewables as established under Senate Bill 100.

[3] Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

[4] CalEEMod default values.

Global Warming Potentials (GWP)

	AR4	AR5
CO_2	1	1
CH_4	25	28
N_2O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC).

Conversion Factors (MT/kWh)

CO_2***	CH_4***	N_2O***	CO_2e	CO_2e
lbs/Mwh	lbs/Mwh	lbs/Mwh	lbs/Mwh	MT/Kwh
326.43634	0.72500	1.83866	329.00	0.000149

 # Systems (Number of systems installed in each year)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10	Total
Sc15-Filtration Systems	62,279	148,858	255,667	303,258	329,467	337,714	345,961	354,208	362,455	370,702	**2,870,569**

Filtration System Energy Use (kWh/year/system)[1]: 260

[1] *Peters, Christine. IQ Air. 2019, October 11. Personal Communication "School Filtration Costs - Installation, Maintenance"*

Filtration System Energy Use (kWh)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10	Total
Sc15-Filtration Systems	16,192,540	38,703,080	66,473,420	78,847,080	85,661,420	87,805,640	89,949,860	92,094,080	94,238,300	96,382,520	**746,347,940**

Filtration System Energy Use (MWh)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10	Total
Sc15-Filtration Systems	16,193	38,703	66,473	78,847	85,661	87,806	89,950	92,094	94,238	96,383	**746,348**

Filtration System Energy Use (GWh)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10	Total
Sc15-Filtration Systems	16	39	66	79	86	88	90	92	94	96	**746**

Filtration System Energy Use (GHG)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10	Total
Sc15-Filtration Systems	2,416	5,776	9,920	11,766	12,784	13,104	13,423	13,743	14,063	14,383	**111,379**

Electric Yard Truck Energy Use

Southern California Edison Carbon Intensity Factors

SCE CO_2e Intensity Factor[1] 329 pounds per megawatt hour

CO2:[1,3]	326.43634	pounds per megawatt hour
CH4:[4]	0.029	pound per megawatt hour
N2O:[4]	0.00617	pound per megawatt hour

[1] Based on CO2e intensity factor of 534 pounds per megawatt hour and adjusted to reflect Senate Bill 100 ; Southern California Edison. 2020. 2019 Sustainability Report. https://www.edison.com/content/dam/eix/documents/sustainability/eix-2019-sustainability-report.pdf
[2] For purposes of the analysis, as the project has a buildout year of 2026, it is anticipated that SCE would meet the 2024 RPS target of 44 percent renewables as established under Senate Bill 100.
[3] Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.
[4] CalEEMod default values.

Global Warming Potentials (GWP)

	AR4	AR5
CO_2	1	1
CH_4	25	28
N_2O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC).

Conversion Factors (MT/kWh)

CO_2***	CH_4***	N_2O***	CO_2e	CO_2e
lbs/Mwh	lbs/Mwh	lbs/Mwh	lbs/Mwh	MT/Kwh
326.43634	0.72500	1.83866	329.00	0.000149

 # Trucks (Number of trucks bought in each year)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10	Total
Sc18 - Yard Trucks	1,183	1,082	1,423	153	268	324	112	107	106	106	**4,864**

Yard Truck Energy Use (kWh/day)[1]: 84 **Operational Days/Year:** 365

[1] *Green Transportation Summit & Expo. 2018, April 17. Making Electrification Work: How to Successfully Deploy HDEVs A Yard Truck Case Study. https://www.gtsummitexpo.socialenterprises.net/program/2018presentations/MikeSaxton.pdf*

Electric Yard Truck Energy Use (kWh)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10	Total
Sc18 - Yard Trucks	36,270,780	33,174,120	43,629,180	4,690,980	8,216,880	9,933,840	3,433,920	3,280,620	3,249,960	3,249,960	**149,130,240**

Electric Yard Truck Energy Use (MWh)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10	Total
Sc18 - Yard Trucks	36,271	33,174	43,629	4,691	8,217	9,934	3,434	3,281	3,250	3,250	**149,130**

Electric Yard Truck Energy Use (GWh)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10	Total
Sc18 - Yard Trucks	36	33	44	5	8	10	3	3	3	3	**149**

Electric Yard Truck Energy Use (GHG)

Scenario	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10	Total
Sc18 - Yard Trucks	5,413	4,951	6,511	700	1,226	1,482	512	490	485	485	**22,255**

Natural Gas Usage Worksheet

	VMT (mi/yr)									
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10
Sc1	0	1.2E+08	2.7E+08	4.3E+08	5.0E+08	5.3E+08	5.5E+08	5.9E+08	6.2E+08	6.3E+08
Sc2	0	1.6E+08	2.9E+08	4.9E+08	5.2E+08	5.6E+08	5.8E+08	6.0E+08	6.1E+08	6.3E+08
Sc3	0	1.2E+08	4.0E+08	4.9E+08	5.5E+08	5.7E+08	5.8E+08	6.0E+08	6.1E+08	6.2E+08
Sc4	9.4E+07	2.3E+08	3.9E+08	4.6E+08	5.0E+08	5.1E+08	5.3E+08	5.4E+08	5.5E+08	5.6E+08
Sc5	0	1.8E+08	3.1E+08	3.7E+08	4.0E+08	4.1E+08	4.2E+08	4.3E+08	4.4E+08	4.5E+08
Sc6	0	0	6.6E+07	1.0E+08	7.1E+07	5.9E+07	3.3E+07	3.1E+07	2.8E+07	2.8E+07
Sc7										
Sc8	0	8.4E+07	2.3E+08	4.2E+08	5.2E+08	5.8E+08	6.1E+08	6.4E+08	6.7E+08	6.9E+08
Sc9	1.2E+08	2.8E+08	4.8E+08	5.7E+08	6.2E+08	6.4E+08	6.5E+08	6.7E+08	6.9E+08	7.0E+08
Sc10	1.2E+08	2.8E+08	4.8E+08	5.7E+08	6.2E+08	6.4E+08	6.5E+08	6.7E+08	6.9E+08	7.0E+08
Sc11										
Sc12	0	0.0E+00	4.0E+07	8.1E+07	1.3E+08	2.6E+08	3.1E+08	3.5E+08	3.6E+08	3.8E+08
Sc13	0	1.6E+08	3.6E+08	6.7E+08	8.0E+08	8.8E+08	9.1E+08	9.4E+08	9.7E+08	1.0E+09
Sc14	1.7E+08	4.0E+08	6.9E+08	8.2E+08	9.0E+08	9.2E+08	9.4E+08	9.6E+08	9.9E+08	1.0E+09
Sc15										
Sc16										
Sc17										
Sc18										

	Diesel Gallon Equivalent Per Year									
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
	yr1	yr2	yr3	yr4	yr5	yr6	yr7	yr8	yr9	yr10
Sc1	0	23,953,769	52,903,332	83,992,786	98,003,788	104,781,468	108,516,108	115,456,518	121,632,099	124,349,680
Sc2	0	31,463,732	56,572,880	96,994,866	101,388,560	109,101,934	114,293,002	117,197,722	119,947,849	122,697,976
Sc3	0	23,953,769	78,215,892	95,880,169	108,280,151	111,258,099	113,975,680	116,693,261	119,410,842	122,128,424
Sc4	18,515,978	44,293,366	76,112,113	90,343,379	98,178,519	100,644,840	103,111,160	105,577,481	108,043,802	110,510,122
Sc8	0	13,279,479	36,190,977	66,057,498	82,642,197	91,348,284	96,528,805	101,287,383	106,587,454	109,637,163
Sc9	18,665,102	44,651,859	76,731,855	91,081,577	98,982,277	101,469,174	103,956,072	106,442,970	108,929,868	111,416,766

Scenario 6 – EV Charger Installation

Modeling Assumptions and CalEEMod Outputs

General Assumptions

CalEEMod Inputs - South Coast AQMD Rule 2305 EV Charger Installation, Construction

Name:	South Coast AQMD Rule 2305 EV Charger Installation
Project Number:	SCA-04
Project Location:	SCAQMD
County/Air Basin:	Los Angeles County, South Coast Air Basin (SoCAB)
Climate Zone:	8
Land Use Setting:	Urban
Operational Year:	2023
Utility Company:	Southern California Edison
Air Basin:	SoCAB
Air District:	SCAQMD

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage*	Land Use Square Feet
Parking	Parking Lot	5.000	1000 sqft	0.11	5,000
				0.11	

Southern California Edison Carbon Intensity Factors

CO2:[1,2]	531.44	pounds per megawatt hour
CH4:[3]	0.029	pound per megawatt hour
N2O:[3]	0.00617	pound per megawatt hour

[1] Based on CO_2e intensity factor of 534 pounds per megawatt hour; Southern California Edison. 2020. 2019 Sustainability Report. https://www.edison.com/content/dam/eix/documents/sustainability/eix-2019-sustainability-report.pdf.

[2] Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

[3] CalEEMod default values.

Global Warming Potentials (GWP)

	AR4	AR5
CO_2	1	1
CH_4	25	28
N_2O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC).

Construction Mitigation

SCAQMD Rule 403

Replace Ground Cover	PM10:	5	% Reduction
Replace Ground Cover	PM2.5:	5	% Reduction
Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	15	mph
SCAQMD Rule 1186	Clean Paved Road	9	% PM Reduction

CalEEMod Construction Off-Road Equipment Inputs

**Based on CalEEMod defaults, assumed equipment would not be shared for most conservative results*

General Construction Hours: 8 hours btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

EV CHARGER INSTALLATION

		Construction Schedule		
Construction Activities	**Phase Type**	**Start Date**	**End Date**	**CalEEMod Duration (Workday)**
EV Charger Installation	Building Construction	1/1/2021	1/4/2021	2
			Total Construction Days:	2

	Construction Equipment Details							
	Equipment	**model**	**# of Equipment**	**hr/day**	**hp**	**load factor***	**Tier Rating**	**total trips**
EV Charger Installation								
	Industrial Concrete Saw		1	8	81	0.73		
	Tractors/Loaders/Backhoes		1	8	97	0.37		
	Skid steer with Augur attachment (bore/drill)		1	8	221	0.5025		
	Crane		1	8	231	0.2881		
	Cement Mixer		1	8	9	0.56		
	Worker Trips							2
	Vendor Trips							1
	Vendor Trip - Dump Truck							4
	Hauling Trips							0

***based on info provided by SCAQMD**

Emissions Worksheet

Regional Construction Emissions Worksheet - EV Charger Installation

EV Charger Installation							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2021 Summer**						
	Off-Road	1.30	13.17	10.30	0.03	0.59	0.56
	Total	**1.30**	**13.17**	**10.30**	**0.03**	**0.59**	**0.56**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.01	0.48	0.11	0.00	0.03	0.01
	Worker	0.01	0.01	0.08	0.00	0.02	0.01
	Total	**0.02**	**0.48**	**0.19**	**0.00**	**0.05**	**0.02**
TOTAL		***1.32***	***13.66***	***10.49***	***0.03***	***0.64***	***0.57***
Onsite	**2021 Winter**						
	Off-Road	1.30	13.17	10.30	0.03	0.59	0.56
	Total	**1.30**	**13.17**	**10.30**	**0.03**	**0.59**	**0.56**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.01	0.48	0.13	0.00	0.03	0.01
	Worker	0.01	0.01	0.07	0.00	0.02	0.01
	Total	**0.02**	**0.48**	**0.19**	**0.00**	**0.05**	**0.02**
TOTAL		***1.33***	***13.66***	***10.49***	***0.03***	***0.64***	***0.57***
Onsite	**2021**						
	Off-Road	1.30	13.17	10.30	0.03	0.59	0.56
	Total	**1.30**	**13.17**	**10.30**	**0.03**	**0.59**	**0.56**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.01	0.48	0.13	0.00	0.03	0.01
	Worker	0.01	0.01	0.08	0.00	0.02	0.01
	Total	**0.02**	**0.48**	**0.19**	**0.00**	**0.05**	**0.02**
TOTAL		***1.33***	***13.66***	***10.49***	***0.03***	***0.64***	***0.57***

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
EV Charger Installation	***1***	***14***	***10***	***0***	***1***	***1***
MAX DAILY	**1**	**14**	**10**	**0**	**1**	**1**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	No	No	No	No	No

Number of Projects (Year 1): **1863**

MAX DAILY -Year 1 (1,863 Projects)*	**2,470**	**25,442**	**19,550**	**50**	**1,191**	**1,064**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	Yes	Yes	Yes	No	Yes	Yes
*represents worst case scenario for 1,863 EV Chargers installed in year 1						
AVERAGE DAILY -Year 1 (1,863 Projects)*	**13**	**140**	**107**	**0**	**7**	**6**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	Yes	No	No	No	No
*represents worst case scenario for 1,863 EV Chargers installed in year 1						

Number of Warehouses (Year 10): **195**

MAX DAILY -Year 10 (195 Projects)**	**259**	**2,663**	**2,046**	**5**	**125**	**111**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	Yes	Yes	Yes	No	No	Yes
**represents final year scenario of 195 EV Chargers installed in year 10						
AVERAGE DAILY -Year 10 (195 Projects)**	**1**	**15**	**11**	**0**	**1**	**1**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	No	No	No	No	No
**represents final year scenario of 195 EV Chargers installed in year 1(						

EV Charger Installation Construction Emissions by Year

		NOx	PM10 Total
MAX DAILY (One Project)		14	1
Scenario 6	# Implemented		
Year 1	1,863	25,442	1,191
Year 2	1,045	14,271	668
Year 3	1,254	17,125	802
Year 4	169	2,308	108
Year 5	195	2,663	125
Year 6	195	2,663	125
Year 7	195	2,663	125
Year 8	195	2,663	125
Year 9	195	2,663	125
Year 10	195	2,663	125

GHG Emissions Inventory

EV Charger Construction*

	# Implemented	$MTCO_2e$ Total Project**	
Year 2022	1,863	4,371	
Year 2023	1,045	2,452	
Year 2024	1,254	2,942	
Year 2025	169	396	
Year 2026	195	457	
Year 2027	195	457	
Year 2028	195	457	
Year 2029	195	457	
Year 2030	195	457	
Year 2031	195	457	
	Total Construction	**12,905**	
	Amortized Construction Emissions****	430	$MTCO_2e$/Year

* Based on calculations using CalEEMod, Version 2016.3.2.25

** $MTCO_2e$=metric tons of carbon dioxide equivalent.

*** Total construction emissions are amortized over 30 years per SCAQMD methodology; SCAQMD. 2009, November 19. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 14. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf?sfvrsn=2.

CalEEMod Outputs

South Coast AQMD Rule 2305 EV Charger Installation

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	5.00	1000sqft	0.11	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE 2019 Sustainability Report

Land Use -

Construction Phase - assuming 2 day duration for ev charger install

Off-road Equipment - based on equipment list provided by SCAQMD. Bore/Drill Rig used as proxy for skid steer with augur attachment

Trips and VMT - assuming 4 trips associated with the dump truck in addition to 1 default vendor trip

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 and Rule 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	1.00	5.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.3243	13.6564	10.4880	0.0268	0.0544	0.5888	0.6432	0.0151	0.5568	0.5719	0.0000	2,573.2495	2,573.2495	0.6215	0.0000	2,588.7870
Maximum	**1.3243**	**13.6564**	**10.4880**	**0.0268**	**0.0544**	**0.5888**	**0.6432**	**0.0151**	**0.5568**	**0.5719**	**0.0000**	**2,573.2495**	**2,573.2495**	**0.6215**	**0.0000**	**2,588.7870**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.3243	13.6564	10.4880	0.0268	0.0506	0.5888	0.6394	0.0142	0.5568	0.5710	0.0000	2,573.2495	2,573.2495	0.6215	0.0000	2,588.7870
Maximum	**1.3243**	**13.6564**	**10.4880**	**0.0268**	**0.0506**	**0.5888**	**0.6394**	**0.0142**	**0.5568**	**0.5710**	**0.0000**	**2,573.2495**	**2,573.2495**	**0.6215**	**0.0000**	**2,588.7870**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**6.99**	**0.00**	**0.59**	**6.14**	**0.00**	**0.16**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2021	1/4/2021	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	5	2.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3019	13.1740	10.2995	0.0253		0.5877	0.5877		0.5557	0.5557		2,414.8822	2,414.8822	0.6127		2,430.1988
Total	**1.3019**	**13.1740**	**10.2995**	**0.0253**		**0.5877**	**0.5877**		**0.5557**	**0.5557**		**2,414.8822**	**2,414.8822**	**0.6127**		**2,430.1988**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0139	0.4769	0.1132	1.2800e-003	0.0320	9.6000e-004	0.0330	9.2100e-003	9.2000e-004	0.0101		136.2192	136.2192	8.2400e-003		136.4252
Worker	8.4400e-003	5.4800e-003	0.0753	2.2000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		22.1481	22.1481	6.0000e-004		22.1630
Total	**0.0224**	**0.4824**	**0.1885**	**1.5000e-003**	**0.0544**	**1.1200e-003**	**0.0555**	**0.0151**	**1.0700e-003**	**0.0162**		**158.3673**	**158.3673**	**8.8400e-003**		**158.5882**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	1.3019	13.1740	10.2995	0.0253		0.5877	0.5877		0.5557	0.5557	0.0000	2,414.8822	2,414.8822	0.6127		2,430.1988
Total	**1.3019**	**13.1740**	**10.2995**	**0.0253**		**0.5877**	**0.5877**		**0.5557**	**0.5557**	**0.0000**	**2,414.8822**	**2,414.8822**	**0.6127**		**2,430.1988**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0139	0.4769	0.1132	1.2800e-003	0.0300	9.6000e-004	0.0309	8.7100e-003	9.2000e-004	9.6300e-003		136.2192	136.2192	8.2400e-003		136.4252
Worker	8.4400e-003	5.4800e-003	0.0753	2.2000e-004	0.0206	1.6000e-004	0.0208	5.5000e-003	1.5000e-004	5.6500e-003		22.1481	22.1481	6.0000e-004		22.1630
Total	**0.0224**	**0.4824**	**0.1885**	**1.5000e-003**	**0.0506**	**1.1200e-003**	**0.0517**	**0.0142**	**1.0700e-003**	**0.0153**		**158.3673**	**158.3673**	**8.8400e-003**		**158.5882**

South Coast AQMD Rule 2305 EV Charger Installation - South Coast AQMD Air District, Winter

South Coast AQMD Rule 2305 EV Charger Installation

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	5.00	1000sqft	0.11	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE 2019 Sustainability Report

Land Use -

Construction Phase - assuming 2 day duration for ev charger install

Off-road Equipment - based on equipment list provided by SCAQMD. Bore/Drill Rig used as proxy for skid steer with augur attachment

Trips and VMT - assuming 4 trips associated with the dump truck in addition to 1 default vendor trip

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 and Rule 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	1.00	5.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.3258	13.6554	10.4938	0.0267	0.0544	0.5889	0.6432	0.0151	0.5568	0.5719	0.0000	2,567.8707	2,567.8707	0.6221	0.0000	2,583.4224
Maximum	**1.3258**	**13.6554**	**10.4938**	**0.0267**	**0.0544**	**0.5889**	**0.6432**	**0.0151**	**0.5568**	**0.5719**	**0.0000**	**2,567.8707**	**2,567.8707**	**0.6221**	**0.0000**	**2,583.4224**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.3258	13.6554	10.4938	0.0267	0.0506	0.5889	0.6394	0.0142	0.5568	0.5710	0.0000	2,567.8707	2,567.8707	0.6221	0.0000	2,583.4224
Maximum	**1.3258**	**13.6554**	**10.4938**	**0.0267**	**0.0506**	**0.5889**	**0.6394**	**0.0142**	**0.5568**	**0.5710**	**0.0000**	**2,567.8707**	**2,567.8707**	**0.6221**	**0.0000**	**2,583.4224**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**6.99**	**0.00**	**0.59**	**6.14**	**0.00**	**0.16**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2021	1/4/2021	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	5	2.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3019	13.1740	10.2995	0.0253		0.5877	0.5877		0.5557	0.5557		2,414.8822	2,414.8822	0.6127		2,430.1988
Total	**1.3019**	**13.1740**	**10.2995**	**0.0253**		**0.5877**	**0.5877**		**0.5557**	**0.5557**		**2,414.8822**	**2,414.8822**	**0.6127**		**2,430.1988**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0147	0.4754	0.1266	1.2400e-003	0.0320	9.9000e-004	0.0330	9.2100e-003	9.5000e-004	0.0102		132.2751	132.2751	8.8500e-003		132.4964
Worker	9.2200e-003	5.9900e-003	0.0677	2.1000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		20.7134	20.7134	5.6000e-004		20.7272
Total	**0.0239**	**0.4814**	**0.1943**	**1.4500e-003**	**0.0544**	**1.1500e-003**	**0.0555**	**0.0151**	**1.1000e-003**	**0.0162**		**152.9885**	**152.9885**	**9.4100e-003**		**153.2236**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	1.3019	13.1740	10.2995	0.0253		0.5877	0.5877		0.5557	0.5557	0.0000	2,414.8822	2,414.8822	0.6127		2,430.1988
Total	**1.3019**	**13.1740**	**10.2995**	**0.0253**		**0.5877**	**0.5877**		**0.5557**	**0.5557**	**0.0000**	**2,414.8822**	**2,414.8822**	**0.6127**		**2,430.1988**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0147	0.4754	0.1266	1.2400e-003	0.0300	9.9000e-004	0.0309	8.7100e-003	9.5000e-004	9.6600e-003		132.2751	132.2751	8.8500e-003		132.4964
Worker	9.2200e-003	5.9900e-003	0.0677	2.1000e-004	0.0206	1.6000e-004	0.0208	5.5000e-003	1.5000e-004	5.6500e-003		20.7134	20.7134	5.6000e-004		20.7272
Total	**0.0239**	**0.4814**	**0.1943**	**1.4500e-003**	**0.0506**	**1.1500e-003**	**0.0517**	**0.0142**	**1.1000e-003**	**0.0153**		**152.9885**	**152.9885**	**9.4100e-003**		**153.2236**

South Coast AQMD Rule 2305 EV Charger Installation

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	5.00	1000sqft	0.11	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE 2019 Sustainability Report

Land Use -

Construction Phase - assuming 2 day duration for ev charger install

Off-road Equipment - based on equipment list provided by SCAQMD. Bore/Drill Rig used as proxy for skid steer with augur attachment

Trips and VMT - assuming 4 trips associated with the dump truck in addition to 1 default vendor trip

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 and Rule 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	1.00	5.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.3200e-003	0.0137	0.0105	3.0000e-005	5.0000e-005	5.9000e-004	6.4000e-004	1.0000e-005	5.6000e-004	5.7000e-004	0.0000	2.3319	2.3319	5.6000e-004	0.0000	2.3460
Maximum	**1.3200e-003**	**0.0137**	**0.0105**	**3.0000e-005**	**5.0000e-005**	**5.9000e-004**	**6.4000e-004**	**1.0000e-005**	**5.6000e-004**	**5.7000e-004**	**0.0000**	**2.3319**	**2.3319**	**5.6000e-004**	**0.0000**	**2.346**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.3200e-003	0.0137	0.0105	3.0000e-005	5.0000e-005	5.9000e-004	6.4000e-004	1.0000e-005	5.6000e-004	5.7000e-004	0.0000	2.3319	2.3319	5.6000e-004	0.0000	2.3460
Maximum	**1.3200e-003**	**0.0137**	**0.0105**	**3.0000e-005**	**5.0000e-005**	**5.9000e-004**	**6.4000e-004**	**1.0000e-005**	**5.6000e-004**	**5.7000e-004**	**0.0000**	**2.3319**	**2.3319**	**5.6000e-004**	**0.0000**	**2.3460**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	0.0214	0.0214
		Highest	0.0214	0.0214

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.0000e-004	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2000e-004	1.2000e-004	0.0000	0.0000	1.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.4219	0.4219	2.0000e-005	0.0000	0.4238
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.0000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4220**	**0.4220**	**2.0000e-005**	**0.0000**	**0.4240**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2021	1/4/2021	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	5	2.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3000e-003	0.0132	0.0103	3.0000e-005		5.9000e-004	5.9000e-004		5.6000e-004	5.6000e-004	0.0000	2.1907	2.1907	5.6000e-004	0.0000	2.2046

Total	**1.3000e-003**	**0.0132**	**0.0103**	**3.0000e-005**		**5.9000e-004**	**5.9000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**2.1907**	**2.1907**	**5.6000e-004**	**0.0000**	**2.2046**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.8000e-004	1.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1221	0.1221	1.0000e-005	0.0000	0.1223
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0191	0.0191	0.0000	0.0000	0.0191
Total	**2.0000e-005**	**4.9000e-004**	**1.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.1412**	**0.1412**	**1.0000e-005**	**0.0000**	**0.1414**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3000e-003	0.0132	0.0103	3.0000e-005		5.9000e-004	5.9000e-004		5.6000e-004	5.6000e-004	0.0000	2.1907	2.1907	5.6000e-004	0.0000	2.2046
Total	**1.3000e-003**	**0.0132**	**0.0103**	**3.0000e-005**		**5.9000e-004**	**5.9000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**2.1907**	**2.1907**	**5.6000e-004**	**0.0000**	**2.2046**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.8000e-004	1.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1221	0.1221	1.0000e-005	0.0000	0.1223
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0191	0.0191	0.0000	0.0000	0.0191
Total	**2.0000e-005**	**4.9000e-004**	**1.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.1412**	**0.1412**	**1.0000e-005**	**0.0000**	**0.1414**

Construction Trips Energy Consumption

Construction-Related Fuel/Energy Usage

CONSTRUCTION WORKER COMMUTE

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
2021	58	2	0	0	1	0
Total	**58**	**2**	**0**	**0**	**1**	**0**

CONSTRUCTION VENDOR TRIPS

Year	Gas		Diesel	
	VMT	Gallons	VMT	Gallons
2021	0	0	68	10
Total	**0**	**0**	**68**	**10**

CONSTRUCTION OFF-ROAD EQUIPMENT

Year	Gasoline gallons	Diesel gallons
2021	75	169
Total	**75**	**169**

CONSTRUCTION TOTAL (EV Charger Installation at One Warehouse)

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
2021	58	78	68	179	1	0
Total	**58**	**78**	**68**	**179**	**1**	**0**

Highest Annual EV Charger Installation: **1,863**

CONSTRUCTION WORKER COMMUTE

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
Year 1	107,637	3,967	664	16	1,062	352
Total	**107,637**	**3,967**	**664**	**16**	**1,062**	**352**

CONSTRUCTION VENDOR TRIPS

Year	Gas		Diesel	
	VMT	Gallons	VMT	Gallons
Year 1	76	19	126,584	19,187
Total	**76**	**19**	**126,584**	**19,187**

CONSTRUCTION OFF-ROAD EQUIPMENT

Year	Gasoline gallons	Diesel gallons
Year 1	140,541	314,891
Total	**140,541**	**314,891**

Worst Case Construction Energy Consumption

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
Year 1	107,713	144,526	127,248	334,094	1,062	352

Construction Worker Trips Fuel Usage Worksheet

Note: Per CalEEMod methodology, worker vehicles are "LD_Mix", which is 50% LDA, 25% LDT1, and 25% LDT2

Activity[1]	Daily trips[1,2]	Trip miles[2]	Trip days[1]	Annual VMT
2021				
Building Construction	2	14.7	2	59
				0

[1] *Based on information provided.*

[2] *Based on CalEEMod defaults.*

Year	LDA VMT	LDT1 VMT	LDT2 VMT	Gasoline[1]						Diesel[1]						Electricity[1]			
				LDA mpg	LDA gallons	LDT1 mpg	LDT1 gallons	LDT2 mpg	LDT2 gallons	LDA mpg	LDA gallons	LDT1 mpg	LDT1 gallons	LDT2 mpg	LDT2 gallons	LDA m/kWh	LDA kWh	LDT1 m/kWh	LDT1 kWh
2021	29	15	15	30.04	1	25.81	1	23.82	1	47.45	0	22.31	0	34.67	0	3.02	0	3.02	0

Gasoline		Diesel		Electricity	
VMT	Gallons	VMT	Gallons	VMT	kWh
58	2	0	0	1	0
58	**2**	**0**	**0**	**1**	**0**

[1] *EMFAC2017 v1.0.3.*

Year	VMT from gasoline			VMT from diesel			VMT from electricity	
	LDA	LDT1	LDT2	LDA	LDT1	LDT2	LDA	LDT1
2021	97.48%	99.40%	98.68%	0.86%	0.04%	0.66%	1.66%	0.56%

Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline

Table A 3: Evidence from U.S. Department of Energy and U.S. Environmental Protection Agency's fuel economy website[32]

Vehicle	Model year	Electric consumption	Gasoline fuel economy	Number of kWh that are equivalent to 1 gallon
Ford Fusion Energi & Ford C-Max Energi	2013	0.34 kWh per mile	43 mpg	14.6
Chevrolet Volt	2013	0.35 kWh per mile	37 mpg	12.9
Chevrolet Volt	2012	0.36 kWh per mile	37 mpg	13.3
Fisker Karma	2012	0.62 kWh per mile	20 mpg	12.4
Toyota Prius	2013	0.29 kWh per mile & 0.2 gal	50 mpg	13.1
Average for five models	-	-	-	13.3 +/- 0.8

Table A 5: Average power consumption per mile traveled over time for different PEV categories

Year range	2012- 2020	2020-2030	2030-2040	2040-2050	2050
Efficiency improvement per year	0.3%	0.8%	0.9%	0.9%	
Year	2012	2020	2030	2040	2050
Relative energy efficiency	1.000	0.976	0.901	0.823	0.752

https://www.fhwa.dot.gov/environment/climate_change/mitigation/publications_and_tools/ev_deployment/page08.cfm

		Year	Estimated Electric Consumption
0.34	14.6	2013	0.34
0.35	12.9	2014	0.34
0.36	13.3	2015	0.34
0.34	13.3	2016	0.34
		2017	0.34
		2018	0.34
		2019	0.34
		2020	0.33
		2021	0.33
		2022	0.33
		2023	0.33
		2024	0.32
		2025	0.32
		2026	0.32
		2027	0.32
		2028	0.31
		2029	0.31
		2030	0.31
		2031	0.31
		2032	0.30
		2033	0.30
		2034	0.30
		2035	0.29

Vendor Trips Fuel Usage Worksheet

Note: Based on CalEEMod methodology, vendor vehicles HHDT (T7).

Activity[1]	Daily trips[1,2]	Trip miles[2]	Trip days[1]	Annual VMT
	2021			
Building Construction	5	6.9	2	69

[1] *Based on information provided.*

[2] *Based on CalEEMod defaults.*

Year	HHDT (T7) VMT	Gasoline[1]		Diesel[1]	
		HHDT (T7) mpg	HHDT (T7) gallons	HHDT (T7) mpg	HHDT (T7) gallons
2021	69	4.05	0	6.60	10

[1] *EMFAC2017 v1.0.3.*

Year	VMT from gasoline HHDT (T7)	VMT from diesel HHDT (T7)
2021	0.06%	98.47%

VENDOR

Gasoline		Diesel	
VMT	Gallons	VMT	Gallons
0.04	0.01	68	10
0.04	**0.01**	**68**	**10**

Off-Road Construction Equipment Fuel Usage Worksheet

Year	Total Gasoline	Total Diesel Gallons	Total Natural Gas
2021	75	169	0
Total	**75**	**169**	**0**

Equipment Type[1]	Number of Equipment[1]	Horsepower	OFFROAD2017 Horsepower Category	Fuel Type	Working days[1]	Hours Per Day	Total Hours of Operation	Gasoline Gal/Hr[2]	Total Gasoline gallons	Diesel Gal/Hr[2]	Total Diesel gallons	Natural Gas Gal/Hr[2]	Total Natural Gas gallons
2021													
EV Charger Construction													
Bore/Drill Rigs	1	221	*300*	*Diesel*	2	8	16	0.00	0	5.36	86	0.00	0
Cement and Mortar Mixers	1	9	*25*	*Diesel*	2	8	16	0.00	0	0.33	5	0.00	0
Concrete/Industrial Saws	1	81	*100*	*Gasoline*	2	8	16	4.71	75	0.00	0	0.00	0
Cranes	1	231	*300*	*Diesel*	2	8	16	0.00	0	3.29	53	0.00	0
Tractors/Loaders/Backhoes	1	97	*100*	*Diesel*	2	8	16	0.00	0	1.59	25	0.00	0
Select Equipment Type			*25*	*Select Fuel Type*	2		0	0.00	0	0.00	0	0.00	0
							TOTAL		**75**		**169**		**0**

[1] Based on information provided.

[2] OFFROAD2017 v.1.0.1

OFFROAD 2021

	Equipment Type	Horsepower HP	Gas Fuel (Gal/Yr)	Gas Population	Gas Hrs/Yr	Gas Gal/Hr	Diesel Fuel (Gal/Yr)	Diesel Population	Diesel Hrs/Yr	Diesel Gal/Hr	Natural Gas Fuel (Gal/Yr)	Natural Gas Population	Natural Gas Hrs/Yr	Natural Gas Gal/Hr
Air Compressors25	Air Compressors	25	705296.8	4813.19	2326703.45	0.303131368	33799	75.63	61670.4	0.548058712	0	0	0	0
Air Compressors50	Air Compressors	50	214623.65	199.41	96396.5	2.226467247	380768	457.43	372416.8	1.022424337	0	0	0	0
Air Compressors75	Air Compressors	75	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors100	Air Compressors	100	1175387.6	646.71	312582.35	3.760249419	0	0	0	0	0	0	0	0
Air Compressors175	Air Compressors	175	143981.55	43.54	21027.65	6.847248742	0	0	0	0	0	0	0	0
Air Compressors300	Air Compressors	300	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors600	Air Compressors	600	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors750	Air Compressors	750	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors9999	Air Compressors	9999	0	0	0	0	0	0	0	0	0	0	0	0
Aerial Lifts25	Aerial Lifts	25	147799.45	453.11	170086.35	0.868967145	124417.55	678.47	270928.55	0.459226427	259963.95	586.08	219974.55	1.18179103
Aerial Lifts50	Aerial Lifts	50	310406.95	541.06	195497.65	1.587778421	447002.2785	1827.937173	546731.325	0.817590392	0	0	0	0
Aerial Lifts75	Aerial Lifts	75	0	0	0	0	527927.97	1537.227014	458331.3569	1.151847811	0	0	0	0
Aerial Lifts100	Aerial Lifts	100	557230.9	541.06	195497.65	2.850320196	252038.1345	677.1735161	202522.8778	1.244492164	0	0	0	0
Aerial Lifts175	Aerial Lifts	175	0	0	0	0	47668.39218	76.77508654	22927.81652	2.079063749	0	0	0	0
Aerial Lifts300	Aerial Lifts	300	0	0	0	0	2848.557493	2.587924266	777.1811054	3.665242855	0	0	0	0
Aerial Lifts600	Aerial Lifts	600	0	0	0	0	2022.888655	0.862641422	259.0603685	7.808560865	0	0	0	0
Bore/Drill rigs25	Bore/Drill rigs	25	15132.9	93.3	11563.2	1.308712121	13147.3	24.36	19793.95	0.664208003	0	0	0	0
Bore/Drill rigs50	Bore/Drill rigs	50	2617.05	9.52	985.5	2.655555556	20308.26822	49.95691984	17573.27857	1.155633432	0	0	0	0
Bore/Drill rigs75	Bore/Drill rigs	75	0	0	0	0	23076.98517	30.50001422	12290.01485	1.877701976	0	0	0	0
Bore/Drill rigs100	Bore/Drill rigs	100	29922.7	43.59	4675.65	6.399687744	103579.5771	122.0000569	47944.17852	2.160420311	0	0	0	0
Bore/Drill rigs175	Bore/Drill rigs	175	10420.75	10.76	1142.45	9.121405751	146596.0023	120.4224699	37675.6844	3.890997725	0	0	0	0
Bore/Drill rigs300	Bore/Drill rigs	300	0	0	0	0	208820.3308	121.4741946	38990.71183	5.355642946	0	0	0	0
Bore/Drill rigs600	Bore/Drill rigs	600	0	0	0	0	380931.8059	103.0690136	35623.29169	10.6933354	0	0	0	0
Bore/Drill rigs750	Bore/Drill rigs	750	0	0	0	0	166164.5445	19.98276794	9861.815214	16.84928595	0	0	0	0
Bore/Drill rigs9999	Bore/Drill rigs	9999	0	0	0	0	109777.0803	3.155173885	2274.433453	48.26568137	0	0	0	0
Cement and Mortar Mixers25	Cement and Mortar Mixers	25	500714.3	14068.45	1295388.65	0.386535964	33704.1	339.62	101970.05	0.330529405	0	0	0	0
Cement and Mortar Mixers50	Cement and Mortar Mixers	50	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers75	Cement and Mortar Mixers	75	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers100	Cement and Mortar Mixers	100	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers175	Cement and Mortar Mixers	175	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers300	Cement and Mortar Mixers	300	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers600	Cement and Mortar Mixers	600	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers750	Cement and Mortar Mixers	750	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers9999	Cement and Mortar Mixers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws25	Concrete/Industrial Saws	25	447493.65	1980.14	562716.85	0.795237694	1069.45	2.39	1438.1	0.743654822	0	0	0	0
Concrete/Industrial Saws50	Concrete/Industrial Saws	50	59911.1	35.43	21644.5	2.767959528	17118.5	21.27	12380.8	1.382665094	0	0	0	0
Concrete/Industrial Saws75	Concrete/Industrial Saws	75	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws100	Concrete/Industrial Saws	100	58425.55	20.3	12391.75	4.714874816	0	0	0	0	0	0	0	0
Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws300	Concrete/Industrial Saws	300	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws600	Concrete/Industrial Saws	600	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws750	Concrete/Industrial Saws	750	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws9999	Concrete/Industrial Saws	9999	0	0	0	0	0	0	0	0	0	0	0	0
Cranes25	Cranes	25	0	0	0	0	388.3092975	1.981318883	937.9999156	0.413975834	0	0	0	0
Cranes50	Cranes	50	8687	10.76	4478.55	1.939690302	6291.598819	21.13406809	9123.503154	0.689603403	0	0	0	0
Cranes75	Cranes	75	0	0	0	0	2555.256191	6.604396278	2449.387697	1.043222432	0	0	0	0
Cranes100	Cranes	100	29714.65	21.67	8979	3.309349593	143594.8317	250.9670586	109798.9297	1.3077981	0	0	0	0
Cranes175	Cranes	175	1963.7	0.85	365	5.38	433821.06	439.1923525	198591.2842	2.184491942	0	0	0	0
Cranes300	Cranes	300	0	0	0	0	756530.9362	492.6879624	230022.4833	3.288943435	0	0	0	0
Cranes600	Cranes	600	0	0	0	0	1309300.53	488.064885	238703.8291	5.485042006	0	0	0	0
Cranes750	Cranes	750	0	0	0	0	20468.56947	5.283517023	2138.460857	9.571636256	0	0	0	0
Cranes9999	Cranes	9999	0	0	0	0	72302.91666	10.56703405	5171.675211	13.98056021	0	0	0	0
Crawler Tractors25	Crawler Tractors	25	0	0	0	0	0	0	0	0	0	0	0	0
Crawler Tractors50	Crawler Tractors	50	0	0	0	0	20374.40013	58.61580733	19770.22897	1.030559644	0	0	0	0
Crawler Tractors75	Crawler Tractors	75	0	0	0	0	2502.543086	8.7923711	1604.780092	1.55943054	0	0	0	0
Crawler Tractors100	Crawler Tractors	100	0	0	0	0	897912.6207	997.6410408	461822.6223	1.944280287	0	0	0	0
Crawler Tractors175	Crawler Tractors	175	0	0	0	0	981807.7526	662.3586228	296640.1258	3.309760438	0	0	0	0
Crawler Tractors300	Crawler Tractors	300	0	0	0	0	1034109.549	515.2329464	226581.052	4.563971877	0	0	0	0
Crawler Tractors600	Crawler Tractors	600	0	0	0	0	3571864.413	890.9602714	418768.1923	8.529454908	0	0	0	0
Crawler Tractors750	Crawler Tractors	750	0	0	0	0	65411.67192	10.55084532	4719.707884	13.8592628	0	0	0	0
Crawler Tractors9999	Crawler Tractors	9999	0	0	0	0	208044.2951	17.5847422	9621.401139	21.62307674	0	0	0	0
Crushing/Proc. Equipment25	Crushing/Proc. Equipment	25	6668.55	23.44	6767.1	0.985436893	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment75	Crushing/Proc. Equipment	75	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment100	Crushing/Proc. Equipment	100	23038.8	12.5	3018.55	7.632406288	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment300	Crushing/Proc. Equipment	300	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment600	Crushing/Proc. Equipment	600	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0	0	0	0	0	0	0	0	0	0	0	0
Dumpers/Tenders25	Dumpers/Tenders	25	47888	937.5	139809.6	0.342522974	3343.4	14.6	9701.7	0.344620015	0	0	0	0
Dumpers/Tenders100	Dumpers/Tenders	100	2460.1	7.69	967.25	2.543396226	0	0	0	0	0	0	0	0
Excavators25	Excavators	25	0	0	0	0	23818.18122	24.33199051	31984.91076	0.744669303	0	0	0	0
Excavators50	Excavators	50	0	0	0	0	814627.9812	1433.085616	1036383.757	0.786029283	0	0	0	0
Excavators75	Excavators	75	0	0	0	0	59074.12148	51.68505502	40242.82708	1.467941638	0	0	0	0
Excavators100	Excavators	100	0	0	0	0	998938.3705	981.4287152	620899.2783	1.608857355	0	0	0	0
Excavators175	Excavators	175	0	0	0	0	2232657.605	1323.254875	773581.3202	2.886131744	0	0	0	0
Excavators300	Excavators	300	0	0	0	0	2858611.97	1148.230484	661179.9015	4.323501007	0	0	0	0
Excavators600	Excavators	600	0	0	0	0	5025839.698	1186.994275	754351.7604	6.662461681	0	0	0	0
Excavators750	Excavators	750	0	0	0	0	70777.21476	9.984612902	5595.801906	12.64827025	0	0	0	0
Excavators9999	Excavators	9999	0	0	0	0	140696.5644	8.80995256	5910.105746	23.80609933	0	0	0	0
Forklifts25	Forklifts	25	6420.35	10.37	9354.95	0.686305111	123.9418031	0.68037913	214.3108806	0.578327161	6891.2	5.6	7033.55	0.979761287
Forklifts50	Forklifts	50	5195647.25	1809	3252967.6	1.597202275	327133.5322	932.1799646	638310.6931	0.512498906	9159131.15	3808.22	6860784.55	1.334997635
Forklifts75	Forklifts	75	0	0	0	0	27195.17819	70.35796943	35108.35719	0.77460697	0	0	0	0
Forklifts100	Forklifts	100	24080499.05	6394.37	11434745.6	2.105905981	5411135.371	8825.88969	5109904.924	1.058950304	57319005.05	13365.77	24079228.85	2.380433585
Forklifts175	Forklifts	175	1685843.75	233.53	417844.7	4.034618005	1558727.216	1645.895935	939682.4441	1.658780821	4302065.2	489.13	881179.35	4.882167518
Forklifts300	Forklifts	300	0	0	0	0	279136.2939	181.2862136	120946.026	2.307941015	0	0	0	0
Forklifts600	Forklifts	600	0	0	0	0	73746.7609	29.25401325	18376.37083	4.013129773	0	0	0	0
Forklifts750	Forklifts	750	0	0	0	0	1884.928147	0.68037913	145.1783385	12.98353574	0	0	0	0
Forklifts9999	Forklifts	9999	0	0	0	0	4988.816152	0.700322947	545.5524143	9.144522179	0	0	0	0
Generator Sets25	Generator Sets	25	10254306.35	126422.18	14525543.6	0.705949918	883624.85	4304.28	1453035.8	0.608123248	0	0	0	0
Generator Sets50	Generator Sets	50	1675882.9	6562.59	753754.2	2.223381177	1048634.05	2220.56	749615.1	1.398896647	0	0	0	0
Generator Sets75	Generator Sets	75	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets100	Generator Sets	100	757356.75	1267.43	145536.45	5.203897374	0	0	0	0	67798.75	94.33	10833.2	6.258423181
Generator Sets175	Generator Sets	175	123607.25	119.7	13731.3	9.001860712	0	0	0	0	98013.45	78.19	8957.1	10.94254279
Generator Sets300	Generator Sets	300	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets600	Generator Sets	600	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets750	Generator Sets	750	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets9999	Generator Sets	9999	0	0	0	0	0	0	0	0	0	0	0	0
Graders25	Graders	25	0	0	0	0	156.6359825	1.180419517	266.5357149	0.587673523	0	0	0	0
Graders50	Graders	50	0	0	0	0	5231.605693	17.11608299	5962.403942	0.877432281	0	0	0	0
Graders75	Graders	75	0	0	0	0	7835.811274	12.98461468	5086.834119	1.540410222	0	0	0	0
Graders100	Graders	100	0	0	0	0	111350.3124	163.4881031	59366.83246	1.875631693	0	0	0	0
Graders175	Graders	175	0	0	0	0	1365834.703	929.5803694	433844.1812	3.14821487	0	0	0	0
Graders300	Graders	300	0	0	0	0	2876093.031	836.9174373	628054.7635	4.579366638	0	0	0	0
Graders600	Graders	600	0	0	0	0	123777.2039	21.83776106	16565.86102	7.47182436	0	0	0	0
Graders750	Graders	750	0	0	0	0	0	0	0	0	0	0	0	0
Graders9999	Graders	9999	0	0	0	0	97575.44347	3.54125855	2550.746791	38.25367684	0	0	0	0
Pavers25	Pavers	25	40817.95	91.34	36215.3	1.127091312	6369.25	9.11	7526.3	0.846265761	0	0	0	0
Pavers50	Pavers	50	27875.05	30.66	12023.1	2.318457802	22332.27134	68.77986059	24121.17072	0.925836959	0	0	0	0
Pavers75	Pavers	75	0	0	0	0	39349.67304	73.36518463	25250.35419	1.558381033	0	0	0	0
Pavers100	Pavers	100	25163.1	16.81	6588.25	3.819390582	175642.2922	258.4976427	101280.3154	1.734219444	0	0	0	0
Pavers175	Pavers	175	0	0	0	0	295349.6014	228.119871	86974.9521	3.39580068	0	0	0	0
Pavers300	Pavers	300	0	0	0	0	230958.3934	109.4746114	48620.89292	4.750188232	0	0	0	0
Pavers600	Pavers	600	0	0	0	0	41337.312	12.0364756	5232.422643	7.900224202	0	0	0	0
Pavers750	Pavers	750	0	0	0	0	8643.593327	1.14633101	536.4430338	16.11278884	0	0	0	0
Pavers9999	Pavers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Paving Equipment25	Paving Equipment	25	865893.15	10002.12	1892112.55	0.457633004	7551.85	15.86	13165.55	0.573606876	0	0	0	0
Paving Equipment50	Paving Equipment	50	32733.2	83.78	14673	2.230845771	27810.90329	84.69207729	39437.19094	0.705194833	0	0	0	0
Paving Equipment75	Paving Equipment	75	0	0	0	0	4483.700467	9.155900247	3641.171111	1.231389663	0	0	0	0
Paving Equipment100	Paving Equipment	100	13515.95	21.59	3774.1	3.581237911	117286.1901	157.3670355	71341.36997	1.644013707	0	0	0	0
Paving Equipment175	Paving Equipment	175	0	0	0	0	123586.6322	100.7149027	46211.73322	2.674356134	0	0	0	0
Paving Equipment300	Paving Equipment	300	0	0	0	0	89279.29039	44.63501371	20761.65274	4.300201507	0	0	0	0
Paving Equipment600	Paving Equipment	600	0	0	0	0	85018.63693	25.17872568	11457.80157	7.420152671	0	0	0	0
Paving Equipment750	Paving Equipment	750	0	0	0	0	17984.08916	2.861218827	1529.21434	11.76034562	0	0	0	0
Paving Equipment9999	Paving Equipment	9999	0	0	0	0	8165.863568	1.144487531	527.1816229	15.489659	0	0	0	0
Rollers25	Rollers	25	201757.4	1082.22	269490.45	0.748662522	139253.5559	523.8295716	364070.9738	0.382490135	0	0	0	0
Rollers50	Rollers	50	36237.2	21.67	13410.1	2.7022319	458560.917	1738.646789	594944.7884	0.770762138	0	0	0	0
Rollers75	Rollers	75	0	0	0	0	3829.296574	12.3810046	2818.23029	1.358759285	0	0	0	0
Rollers100	Rollers	100	114208.5	40.55	25236.1	4.525600231	712933.3782	1284.676621	420989.9564	1.693468852	0	0	0	0
Rollers175	Rollers	175	0	0	0	0	741171.5801	749.935136	265858.826	2.787838911	0	0	0	0
Rollers300	Rollers	300	0	0	0	0	122733.1973	96.1001786	29246.62747	4.196490602	0	0	0	0
Rollers600	Rollers	600	0	0	0	0	71995.38259	34.78472722	10557.38087	6.819435942	0	0	0	0
Rollers750	Rollers	750	0	0	0	0	0	0	0	0	0	0	0	0
Rollers9999	Rollers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Rough Terrain Forklifts25	Rough Terrain Forklifts	25	0	0	0	0	123.9418031	0.68037913	214.3108806	0.578327161	0	0	0	0
Rough Terrain Forklifts50	Rough Terrain Forklifts	50	5865.55	4.34	1784.85	3.286298569	23235.45927	78.24359991	21123.83232	1.099964198	0	0	0	0
Rough Terrain Forklifts75	Rough Terrain Forklifts	75	0	0	0	0	636.8938631	2.041137389	461.6517536	1.379598059	0	0	0	0
Rough Terrain Forklifts100	Rough Terrain Forklifts	100	129323.15	61.28	25374.8	5.096518987	1813411.263	3239.285036	905690.8398	2.002240923	0	0	0	0
Rough Terrain Forklifts175	Rough Terrain Forklifts	175	7292.7	2.08	872.35	8.359832636	413401.2833	592.6102219	159463.4261	2.592452034	0	0	0	0
Rough Terrain Forklifts300	Rough Terrain Forklifts	300	0	0	0	0	29464.59354	27.21516519	6735.814022	4.374318151	0	0	0	0
Rough Terrain Forklifts600	Rough Terrain Forklifts	600	0	0	0	0	10933.3307	5.443033037	1377.273867	7.938385354	0	0	0	0
Rough Terrain Forklifts750	Rough Terrain Forklifts	750	0	0	0	0	1884.928147	0.68037913	145.1783385	12.98353574	0	0	0	0
Rough Terrain Forklifts9999	Rough Terrain Forklifts	9999	0	0	0	0	0	0	0	0	0	0	0	0
Rubber Tired Dozers25	Rubber Tired Dozers	25	0	0	0	0	0	0	0	0	0	0	0	0
Rubber Tired Dozers50	Rubber Tired Dozers	50	0	0	0	0	19712.57303	21.87594696	21017.07966	0.937931118	0	0	0	0
Rubber Tired Dozers75	Rubber Tired Dozers	75	0	0	0	0	15918.84685	17.38857322	11198.17463	1.421557296	0	0	0	0
Rubber Tired Dozers100	Rubber Tired Dozers	100	0	0	0	0	76706.9984	49.92203281	44304.44468	1.731361243	0	0	0	0
Rubber Tired Dozers175	Rubber Tired Dozers	175	0	0	0	0	84883.81208	37.58175503	28274.39354	3.002144395	0	0	0	0
Rubber Tired Dozers300	Rubber Tired Dozers	300	0	0	0	0	93220.45531	30.85069443	20875.85968	4.465466656	0	0	0	0
Rubber Tired Dozers600	Rubber Tired Dozers	600	0	0	0	0	1033619.582	189.0306186	136243.7192	7.586548492	0	0	0	0
Rubber Tired Dozers750	Rubber Tired Dozers	750	0	0	0	0	29408.23692	2.243686868	2211.39093	13.29852471	0	0	0	0
Rubber Tired Dozers9999	Rubber Tired Dozers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Scrapers25	Scrapers	25	0	0	0	0	0	0	0	0	0	0	0	0
Scrapers50	Scrapers	50	0	0	0	0	980.3487336	3.468415239	1116.654651	0.877933686	0	0	0	0
Scrapers75	Scrapers	75	0	0	0	0	11757.84382	16.76400699	7052.349594	1.667223621	0	0	0	0
Scrapers100	Scrapers	100	0	0	0	0	51789.83885	37.57449842	22868.90451	2.264640129	0	0	0	0
Scrapers175	Scrapers	175	0	0	0	0	694848.4894	375.166915	165889.4579	4.188623547	0	0	0	0
Scrapers300	Scrapers	300	0	0	0	0	820949.9988	368.8081537	147774.3304	5.555430342	0	0	0	0
Scrapers600	Scrapers	600	0	0	0	0	10150562.37	2029.600984	962569.3616	10.54527889	0	0	0	0
Scrapers750	Scrapers	750	0	0	0	0	162028.0357	27.1692527	10384.69246	15.60258392	0	0	0	0
Scrapers9999	Scrapers	9999	0	0	0	0	234885.3073	15.02979937	5894.57908	39.84768109	0	0	0	0
Skid Steer Loaders25	Skid Steer Loaders	25	660693.8	1889.76	603363.25	1.0950183	613470.1	1170.73	977283.85	0.627729702	0	0	0	0
Skid Steer Loaders50	Skid Steer Loaders	50	174626.95	294.73	91450.75	1.909519058	346960.6602	1203.821574	374581.0809	0.926263172	0	0	0	0
Skid Steer Loaders75	Skid Steer Loaders	75	0	0	0	0	1810593.225	3817.373718	1347656.352	1.343512552	0	0	0	0
Skid Steer Loaders100	Skid Steer Loaders	100	233468.6	176.34	54717.15	4.266826763	30834.00723	67.44265637	21611.49658	1.426740953	0	0	0	0
Skid Steer Loaders175	Skid Steer Loaders	175	0	0	0	0	12445.20364	16.11461701	4300.332716	2.894009478	0	0	0	0
Skid Steer Loaders300	Skid Steer Loaders	300	0	0	0	0	11562.25944	10.14624034	2958.752892	3.907815171	0	0	0	0
Skid Steer Loaders600	Skid Steer Loaders	600	0	0	0	0	3343.817792	1.193675334	370.6021613	9.022661336	0	0	0	0
Skid Steer Loaders750	Skid Steer Loaders	750	0	0	0	0	0	0	0	0	0	0	0	0
Skid Steer Loaders9999	Skid Steer Loaders	9999	0	0	0	0	4526.318501	1.193675334	237.1853833	19.08346307	0	0	0	0
Surfacing Equipment25	Surfacing Equipment	25	422735.7	2699.36	1154936.65	0.366025011	0	0	0	0	0	0	0	0
Surfacing Equipment50	Surfacing Equipment	50	0	0	0	0	3214.419573	21.11675045	5090.87263	0.631408367	0	0	0	0
Surfacing Equipment75	Surfacing Equipment	75	0	0	0	0	2157.232946	8.121827098	2043.562344	1.055623751	0	0	0	0
Surfacing Equipment100	Surfacing Equipment	100	0	0	0	0	18714.32518	50.35532801	13453.40116	1.391047882	0	0	0	0
Surfacing Equipment175	Surfacing Equipment	175	0	0	0	0	17306.16086	31.94585325	8198.089918	2.110999152	0	0	0	0
Surfacing Equipment300	Surfacing Equipment	300	0	0	0	0	34125.18889	39.52622521	9589.399489	3.558636694	0	0	0	0
Surfacing Equipment600	Surfacing Equipment	600	0	0	0	0	107969.2528	60.64297566	17050.2665	6.332408516	0	0	0	0
Surfacing Equipment750	Surfacing Equipment	750	0	0	0	0	53750.94342	18.40947476	5422.195032	9.913133539	0	0	0	0
Surfacing Equipment9999	Surfacing Equipment	9999	0	0	0	0	17702.79625	4.873096259	1296.558699	13.65367898	0	0	0	0
Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0	0	0	0	117033.6	171.93	162136.65	0.72182076	0	0	0	0
Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0	0	0	0	685871.3001	1684.785388	860823.4062	0.796761909	0	0	0	0
Tractors/Loaders/Backhoes75	Tractors/Loaders/Backhoes	75	0	0	0	0	97193.41701	317.5849808	71162.44431	1.365796495	0	0	0	0
Tractors/Loaders/Backhoes100	Tractors/Loaders/Backhoes	100	96816.25	37.99	33112.8	2.92383157	10931487.86	11121.93169	6880011.414	1.588876413	0	0	0	0
Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0	0	0	0	1907856.278	1279.732455	702109.9605	2.717318349	0	0	0	0
Tractors/Loaders/Backhoes300	Tractors/Loaders/Backhoes	300	0	0	0	0	1149748.555	533.0261785	293119.761	3.922453236	0	0	0	0
Tractors/Loaders/Backhoes600	Tractors/Loaders/Backhoes	600	0	0	0	0	1624760.872	468.4525226	254532.2911	6.383319243	0	0	0	0
Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0	0	0	0	30704.36522	4.69626589	2524.426308	12.16290811	0	0	0	0
Tractors/Loaders/Backhoes9999	Tractors/Loaders/Backhoes	9999	0	0	0	0	536446.2498	24.65539592	15207.53113	35.27503876	0	0	0	0
Trenchers25	Trenchers	25	406781.55	970.33	421491.05	0.965101276	55563.95	93.87	58075.15	0.956759475	0	0	0	0
Trenchers50	Trenchers	50	173747.3	196.53	79069.95	2.19738725	242864.6169	552.4570494	210362.7203	1.154504071	0	0	0	0
Trenchers75	Trenchers	75	0	0	0	0	14004.7615	28.25064457	7601.550456	1.842355922	0	0	0	0
Trenchers100	Trenchers	100	108784.6	65.26	26221.6	4.148663697	162069.6679	227.8885329	74359.81954	2.17953283	0	0	0	0
Trenchers175	Trenchers	175	0	0	0	0	35941.11513	33.90077349	9698.089966	3.705999352	0	0	0	0
Trenchers300	Trenchers	300	0	0	0	0	85420.24161	46.45661552	14381.63732	5.939535234	0	0	0	0
Trenchers600	Trenchers	600	0	0	0	0	118699.0177	32.64518928	11783.28917	10.0735046	0	0	0	0
Trenchers750	Trenchers	750	0	0	0	0	38548.08213	5.022336813	2296.412445	16.78621896	0	0	0	0
Trenchers9999	Trenchers	9999	0	0	0	0	3169.32498	0.627792102	141.7538547	22.35794566	0	0	0	0
Welders25	Welders	25	2558781.4	15448.99	3209404.85	0.797275981	398842.8	1587.12	1019244.25	0.391312288	0	0	0	0
Welders50	Welders	50	521453.6	1042.15	216507.05	2.408483234	1747875.5	2286.55	1468497.2	1.190247758	0	0	0	0
Welders75	Welders	75	0	0	0	0	0	0	0	0	0	0	0	0
Welders100	Welders	100	734719.45	1063.62	220974.65	3.324903784	0	0	0	0	0	0	0	0
Welders175	Welders	175	91596.75	73.3	15213.2	6.020873321	0	0	0	0	0	0	0	0
Welders300	Welders	300	0	0	0	0	0	0	0	0	0	0	0	0
Welders600	Welders	600	0	0	0	0	0	0	0	0	0	0	0	0
Welders750	Welders	750	0	0	0	0	0	0	0	0	0	0	0	0
Welders9999	Welders	9999	0	0	0	0	0	0	0	0	0	0	0	0

Model Output: OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2021
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Year	Vehicle Category	Model Year	Horsepower B	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consump	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	50	Diesel	0.038676101	0.046798082	0.055693585	0.121393228	0.110291217	1.527712365	0.010400604	0.009568556	1.30589E-05	1.25526E-05	353953.811	317041.5546	981.0730343	12937987
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	75	Diesel	0.037165423	0.044970161	0.053518209	0.147131103	0.276953972	2.823896353	0.021512055	0.019791091	2.51685E-05	2.32029E-05	654265.0952	370273.7033	1057.95218	23354653
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	100	Diesel	0.044347015	0.053659888	0.063859702	0.290317242	0.368661802	6.433207669	0.029649701	0.027277725	5.85467E-05	5.28592E-05	1490502.024	622802.2842	1120.555067	53368494
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	175	Diesel	0.028486617	0.034468806	0.041020728	0.17729967	0.26607235	3.816034779	0.015351	0.01412292	3.46632E-05	3.13549E-05	884132.4348	282595.5308	437.5162721	34291593
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	300	Diesel	0.022453749	0.027169036	0.032333399	0.08327788	0.239445904	3.871306653	0.01021537	0.00939814	3.53586E-05	3.1809E-05	896938.3077	162487.5584	199.5906342	35220369
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	600	Diesel	0.011673127	0.014124484	0.016809303	0.051077055	0.110063059	3.118192107	0.004924964	0.004530967	2.86724E-05	2.5621E-05	722450.119	78309.05066	71.21239829	28792833
South Coast AQMD	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregate	50	Diesel	2.43106E-05	2.94158E-05	3.50072E-05	0.000154781	0.000163028	0.00270755	9.04981E-06	8.32583E-06	2.44712E-08	2.22469E-08	627.3089994	615.0088381	0.959821816	21525.31
South Coast AQMD	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregate	100	Diesel	0.000129966	0.000157258	0.00018715	0.001224828	0.001190577	0.028389432	9.87224E-05	9.08246E-05	2.60336E-07	2.33265E-07	6577.512736	2694.289691	4.33197057	225648.8
South Coast AQMD	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregate	175	Diesel	0.000306267	0.000370583	0.000441024	0.003124695	0.003011559	0.075104621	0.000183347	0.000168679	6.89849E-07	6.17105E-07	17400.89783	5198.668697	8.331605796	671028.5
South Coast AQMD	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregate	300	Diesel	7.53691E-05	9.11966E-05	0.000108532	0.000327423	0.000860341	0.022027385	3.42403E-05	3.15011E-05	2.02759E-07	1.8099E-07	5103.497986	1006.318055	1.621137025	194683.8
South Coast AQMD	2021	Agricultural - Balers (Self Propelled)	Aggregate	50	Diesel	0.000276679	0.000334782	0.000398418	0.001244352	0.001394573	0.022632025	9.10477E-05	8.37639E-05	2.02347E-07	1.85959E-07	5243.58613	3891.441281	11.97084369	179036.9
South Coast AQMD	2021	Agricultural - Balers (Self Propelled)	Aggregate	75	Diesel	0.000126636	0.00015323	0.000182357	0.000875809	0.001222986	0.020498245	7.81872E-05	7.19322E-05	1.86989E-07	1.68426E-07	4749.213387	2518.194296	7.693049487	163419.3
South Coast AQMD	2021	Agricultural - Balers (Self Propelled)	Aggregate	100	Diesel	2.54222E-05	3.07609E-05	3.6608E-05	0.00017812	0.000232482	0.004168888	1.71327E-05	1.5762E-05	3.80393E-08	3.42541E-08	965.884458	418.9330969	1.286642068	33198.89
South Coast AQMD	2021	Agricultural - Balers (Self Propelled)	Aggregate	175	Diesel	1.52325E-05	1.84313E-05	2.19348E-05	0.0001263	0.000170109	0.003101534	8.80559E-06	8.10114E-06	2.84106E-08	2.54841E-08	718.5905697	261.0693507	0.80262885	27603.78
South Coast AQMD	2021	Agricultural - Combine Harvesters	Aggregate	75	Diesel	2.93215E-05	3.54791E-05	4.2223E-05	0.000173989	0.000252597	0.003933078	1.87748E-05	1.72729E-05	3.57275E-08	3.23166E-08	911.2501173	613.8309079	1.689195759	35233.55
South Coast AQMD	2021	Agricultural - Combine Harvesters	Aggregate	100	Diesel	0.000200431	0.000242521	0.000288621	0.001191325	0.00170384	0.026897688	0.000136625	0.000125695	2.44338E-07	2.21008E-07	6231.89245	2776.849549	7.681411977	235422.4
South Coast AQMD	2021	Agricultural - Combine Harvesters	Aggregate	175	Diesel	0.000293205	0.000354778	0.000422215	0.002076017	0.003093947	0.050146325	0.000166027	0.000152744	4.57941E-07	4.12033E-07	11618.34069	3653.051326	10.23929221	509840.3

South Coast AQMD	2021	Agricultural - Combine Harvesters	Aggregate	300	Diesel	0.001513036	0.001830774	0.002178772	0.006466963	0.020021534	0.381083086	0.000737697	0.000678681	3.50154E-06	3.13121E-06	88292.6745	16253.97954	43.14070588	3760206
South Coast AQMD	2021	Agricultural - Combine Harvesters	Aggregate	600	Diesel	0.000295332	0.000357352	0.000425278	0.002059643	0.00392246	0.130839129	0.000162485	0.000149486	1.20893E-06	1.07505E-06	30313.95796	3798.442436	8.393674521	1257178
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	50	Diesel	0.002780513	0.003364421	0.004003939	0.009661158	0.00902375	0.130878824	0.0007811	0.000718612	1.13474E-06	1.07538E-06	30323.1549	29308.82787	75.85934131	1298270
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	75	Diesel	0.001902462	0.002301979	0.002739545	0.009731432	0.015654335	0.207295538	0.001135694	0.001044839	1.87233E-06	1.70327E-06	48028.04999	32507.04896	89.60844652	2047296
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	100	Diesel	0.003739049	0.00452425	0.005384231	0.022565542	0.030561051	0.493040064	0.002487708	0.002288692	4.4768E-06	4.05112E-06	114231.85	58004.26424	119.4156178	4890839
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	175	Diesel	0.007347913	0.008890975	0.010580995	0.050246426	0.068195154	1.113530133	0.004022494	0.003700695	1.01438E-05	9.14944E-06	257992.4359	100496.8393	160.7581846	12315417
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	300	Diesel	0.003957067	0.004788051	0.005698177	0.015253698	0.044112522	0.732148874	0.001865264	0.001716043	6.69577E-06	6.01578E-06	169630.678	40965.63844	73.3185642	8060880
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	600	Diesel	0.000536076	0.000648652	0.00077195	0.002493781	0.005356826	0.085207501	0.000230447	0.000212011	7.76987E-07	7.00117E-07	19741.62175	2693.488727	3.049418887	951378.4
South Coast AQMD	2021	Agricultural - Cotton Pickers	Aggregate	100	Diesel	4.98984E-05	6.0377E-05	7.18536E-05	0.000590342	0.000547164	0.014528247	4.07957E-05	3.7532E-05	1.33725E-07	1.19373E-07	3366.031853	1446.087452	3.192876405	130147.9
South Coast AQMD	2021	Agricultural - Cotton Pickers	Aggregate	175	Diesel	0.000118301	0.000143145	0.000170354	0.001510358	0.00138087	0.038403632	7.72516E-05	7.10715E-05	3.53893E-07	3.15548E-07	8897.690615	3088.689852	6.7493163	376320.6
South Coast AQMD	2021	Agricultural - Cotton Pickers	Aggregate	300	Diesel	0.000119865	0.000145036	0.000172605	0.000634363	0.001628383	0.046341998	6.13705E-05	5.64609E-05	4.27733E-07	3.80774E-07	10736.92078	1868.493918	4.045570315	461460.5
South Coast AQMD	2021	Agricultural - Cotton Pickers	Aggregate	600	Diesel	0.000289182	0.000349911	0.000416423	0.001549686	0.003831366	0.115638424	0.000150492	0.000138452	1.06763E-06	9.50156E-07	26792.12515	3537.786702	7.709873198	1147985
South Coast AQMD	2021	Agricultural - Forage & Silage Harvesters	Aggregate	100	Diesel	9.59812E-06	1.16137E-05	1.38213E-05	5.71084E-05	8.17097E-05	0.001290953	6.54983E-06	6.02584E-06	1.17276E-08	1.06073E-08	299.0993015	144.5587067	0.395196656	11564.7
South Coast AQMD	2021	Agricultural - Forage & Silage Harvesters	Aggregate	300	Diesel	9.20504E-06	1.11381E-05	1.32553E-05	3.65956E-05	0.000121722	0.00205268	4.39867E-06	4.04678E-06	1.88292E-08	1.68661E-08	475.5828181	92.92153874	0.261210353	20442.74
South Coast AQMD	2021	Agricultural - Forage & Silage Harvesters	Aggregate	600	Diesel	0.000100071	0.000121086	0.000144102	0.000546521	0.001316317	0.031346511	5.08586E-05	4.67899E-05	2.88756E-07	2.57562E-07	7262.634767	766.4249467	1.889608855	321342.6
South Coast AQMD	2021	Agricultural - Forage & Silage Harvesters	Aggregate	750	Diesel	0.000191481	0.000231692	0.000275733	0.00130515	0.002547215	0.082382314	0.000104467	9.61094E-05	7.6103E-07	6.76903E-07	19087.05774	1348.959746	2.95780971	815928.4
South Coast AQMD	2021	Agricultural - Forage & Silage Harvesters	Aggregate	9999	Diesel	0.000120021	0.000145225	0.00017283	0.000797932	0.002661039	0.049750878	6.55091E-05	6.02684E-05	4.59456E-07	4.08784E-07	11526.7202	576.129637	1.253984217	495471.5
South Coast AQMD	2021	Agricultural - Forklifts	Aggregate	50	Diesel	0.000230924	0.000279418	0.000332531	0.000912066	0.000863094	0.013153783	6.68913E-05	6.154E-05	1.15501E-07	1.0808E-07	3047.583948	3946.414316	6.545598291	130717.5
South Coast AQMD	2021	Agricultural - Forklifts	Aggregate	75	Diesel	1.86682E-05	2.25885E-05	2.68822E-05	0.000102404	0.000152186	0.002121459	1.09944E-05	1.01148E-05	1.91854E-08	1.74312E-08	491.5181561	324.3426804	0.385506137	21082.27
South Coast AQMD	2021	Agricultural - Forklifts	Aggregate	100	Diesel	7.32878E-06	8.86782E-06	1.05534E-05	4.0699E-05	5.66119E-05	0.000843144	4.64475E-06	4.27317E-06	7.62771E-09	6.92778E-09	195.3469616	108.1142286	0.128502053	8378.853
South Coast AQMD	2021	Agricultural - Hay Squeeze/Stack retriever	Aggregate	75	Diesel	1.28075E-05	1.54971E-05	1.84428E-05	5.48155E-05	9.2426E-05	0.00105347	7.7525E-06	7.1323E-06	9.42096E-09	8.65596E-09	244.077292	158.8366733	0.268439361	9970.478
South Coast AQMD	2021	Agricultural - Hay Squeeze/Stack retriever	Aggregate	100	Diesel	2.12133E-05	2.56681E-05	3.05472E-05	9.10479E-05	0.000151098	0.001749803	1.33303E-05	1.22639E-05	1.56499E-08	1.43774E-08	405.4096355	213.6884045	0.36087725	16560.85
South Coast AQMD	2021	Agricultural - Hay Squeeze/Stack retriever	Aggregate	175	Diesel	0.000342495	0.000414418	0.000493192	0.001755296	0.003086035	0.036195491	0.000180665	0.000166212	3.26615E-07	2.97404E-07	8386.08901	2914.014494	4.912121851	355000.8
South Coast AQMD	2021	Agricultural - Hay Squeeze/Stack retriever	Aggregate	300	Diesel	0.000804168	0.000973043	0.001158002	0.002773152	0.008468734	0.102663761	0.000367357	0.000337969	9.31419E-07	8.43548E-07	23786.04141	4546.338013	7.641108945	1079141
South Coast AQMD	2021	Agricultural - Hay Squeeze/Stack retriever	Aggregate	600	Diesel	0.00019594	0.000237087	0.000282154	0.001050722	0.002061043	0.02727655	8.78902E-05	8.08589E-05	2.47999E-07	2.24121E-07	6319.670582	885.2909162	1.498963323	281493.3
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	50	Diesel	0.000555925	0.000672669	0.000800532	0.005875488	0.007534209	0.142095701	0.000275382	0.000253351	1.30588E-06	1.16755E-06	32921.97927	31851.09722	81.24915014	1276198
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	75	Diesel	0.000324481	0.000392622	0.000467252	0.005080274	0.00506409	0.13038839	0.000220328	0.000202702	1.20386E-06	1.07135E-06	30209.52673	18021.39182	45.69062627	1176110
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	100	Diesel	0.000733655	0.000887722	0.001056463	0.017270967	0.010808248	0.446602346	0.000727064	0.000668899	4.13475E-06	3.66956E-06	103472.7518	48937.6956	87.27464384	4026055
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	175	Diesel	0.000826284	0.000999804	0.00118985	0.014197962	0.01038131	0.368033901	0.000579046	0.000532722	3.40069E-06	3.02399E-06	85269.32486	29002.12166	58.7597314	3574487
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	300	Diesel	5.58192E-05	6.75412E-05	8.03796E-05	0.000363048	0.000744077	0.026880936	3.06961E-05	2.82404E-05	2.4852E-07	2.2087E-07	6228.011226	1362.941128	2.814220423	268908.7
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	600	Diesel	0.000417865	0.000505617	0.000601726	0.003139717	0.006014737	0.246275242	0.000249956	0.00022996	2.27967E-06	2.02355E-06	57059.20981	7546.669191	17.71478147	2452667
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	50	Diesel	0.000281015	0.000340029	0.000404662	0.00166638	0.001592832	0.025578377	9.40387E-05	8.65156E-05	2.29641E-07	2.10168E-07	5926.22298	6034.302395	4.758650328	229137.9
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	75	Diesel	0.000380501	0.000460406	0.000547921	0.003366337	0.003503864	0.074819532	0.000225102	0.000207094	6.84968E-07	6.14763E-07	17334.84585	10044.49092	7.152606918	676420.4
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	100	Diesel	0.001208427	0.001462196	0.001740135	0.010196858	0.009736928	0.224490553	0.000848562	0.000780677	2.0532E-06	1.84455E-06	52011.94181	23470.33076	18.79344244	2010391
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	175	Diesel	0.00087717	0.001061376	0.001263125	0.00652357	0.008362972	0.149845337	0.000493622	0.000454133	1.36837E-06	1.23122E-06	34717.48301	11444.68723	16.92028694	1520396
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	300	Diesel	0.000746265	0.000902981	0.001074622	0.002896715	0.008370552	0.154036886	0.000343201	0.000315745	1.41131E-06	1.26566E-06	35688.61795	7106.415973	10.63260717	1517568
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	600	Diesel	0.000240254	0.000290707	0.000345966	0.001260785	0.002656274	0.048164159	0.000110701	0.000101845	4.41081E-07	3.95746E-07	11159.09524	1251.659219	2.033930063	482957.5
South Coast AQMD	2021	Agricultural - Others	Aggregate	50	Diesel	0.00019916	0.000240983	0.00028679	0.000806595	0.000789468	0.012189633	5.93001E-05	5.45561E-05	1.0748E-07	1.00157E-07	2824.201227	2691.912982	5.128726614	121136.1
South Coast AQMD	2021	Agricultural - Others	Aggregate	75	Diesel	3.70281E-05	4.4804E-05	5.33205E-05	0.000227667	0.000323913	0.005026055	2.27661E-05	2.09448E-05	4.56692E-08	4.12971E-08	1164.480493	768.416627	1.556382676	49947.08
South Coast AQMD	2021	Agricultural - Others	Aggregate	100	Diesel	0.000151286	0.000183056	0.000217852	0.000937803	0.001257761	0.020671111	0.000100497	9.24572E-05	1.87858E-07	1.69846E-07	4789.264557	2359.307094	4.733398883	205421.9
South Coast AQMD	2021	Agricultural - Others	Aggregate	175	Diesel	0.000422788	0.000511573	0.000608814	0.003066039	0.004262214	0.070991451	0.000238794	0.000219691	6.4807E-07	5.83309E-07	16447.92264	6151.465024	12.45597194	784301.5
South Coast AQMD	2021	Agricultural - Others	Aggregate	300	Diesel	0.000472604	0.000571851	0.00068055	0.001917315	0.005454315	0.092979445	0.000231086	0.000212599	8.51229E-07	7.63976E-07	21542.29396	4718.61392	9.466797663	1027221
South Coast AQMD	2021	Agricultural - Others	Aggregate	600	Diesel	0.002184746	0.002643543	0.003146035	0.013188492	0.025568453	0.470431497	0.001064772	0.00097959	4.313E-06	3.86535E-06	108993.6987	13910.55304	28.17500635	5197247
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	50	Diesel	0.000496038	0.000600206	0.000714295	0.001942538	0.00189609	0.029209694	0.000145272	0.00013365	2.56988E-07	2.40005E-07	6767.558201	7329.48554	13.09571149	275304.2
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	75	Diesel	0.000118523	0.000143413	0.000170673	0.000697211	0.001022665	0.015215825	7.2145E-05	6.63734E-05	1.38066E-07	1.25023E-07	3525.335999	2365.242325	4.243894179	143972.3
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	100	Diesel	0.000337924	0.000408888	0.000486611	0.002006275	0.0027727	0.043735777	0.000220965	0.000203288	3.96933E-07	3.5936E-07	10133.08883	4717.463138	8.39276906	416659.3
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	175	Diesel	0.000449845	0.000544312	0.000647776	0.003174925	0.004539993	0.072672225	0.000252451	0.000232255	6.62902E-07	5.97119E-07	16837.33892	6268.990383	11.20891991	747308.5
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	300	Diesel	0.000182189	0.000220449	0.000262352	0.000746905	0.002092707	0.034345541	8.97983E-05	8.26144E-05	3.14206E-07	2.82204E-07	7957.476449	1640.435038	2.954134151	358434.7
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	600	Diesel	1.03009E-05	1.24641E-05	1.48333E-05	6.58808E-05	0.000120219	0.002119885	5.04392E-06	4.64041E-06	1.94218E-08	1.74183E-08	491.1534825	67.5905459	0.12342979	22304.88
South Coast AQMD	2021	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	50	Diesel	9.31855E-05	0.000112754	0.000134187	0.000642952	0.000742475	0.012970096	3.66228E-05	3.3693E-05	1.17924E-07	1.0657E-07	3005.025621	2469.931559	5.645112468	109334.3
South Coast AQMD	2021	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	75	Diesel	0.000207663	0.000251272	0.000299034	0.00237444	0.002529124	0.058259264	0.000135216	0.000124399	5.36019E-07	4.78694E-07	13498.01767	7505.675465	16.22488779	483104.4
South Coast AQMD	2021	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	100	Diesel	0.000459143	0.000555563	0.000661166	0.005503671	0.004934749	0.135092397	0.000365985	0.000336706	1.2436E-06	1.11E-06	31299.39244	13264.57429	28.64094431	1136615
South Coast AQMD	2021	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	175	Diesel	0.000238034	0.000288021	0.000342769	0.00330384	0.002774311	0.084099996	0.000155996	0.000143516	7.7562E-07	6.91017E-07	19485.02537	6342.196354	13.20025452	749626.2
South Coast AQMD	2021	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	300	Diesel	0.000107422	0.000129981	0.000154688	0.000603271	0.001392297	0.043195319	5.53593E-05	5.09306E-05	3.98818E-07	3.54919E-07	10007.87073	1926.340874	3.985903848	395970.6
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	50	Diesel	0.000335427	0.000405867	0.000483015	0.001415191	0.001216468	0.121074361	0.000129034	0.000118711	1.10933E-06	9.88193E-07	3928.124295	2957.283977	9.38581113	127574.6
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	75	Diesel	5.04596E-06	6.10561E-06	7.26618E-06	0.000127296	0.000109686	0.020258863	7.46518E-06	6.86796E-06	1.87152E-07	1.6535E-07	657.2765052	412.7718419	1.251441484	23734.38
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	100	Diesel	0.000924452	0.001118587	0.001331211	0.007592174	0.010041284	1.088124398	0.000700307	0.000644282	1.00325E-05	8.88113E-06	35302.99774	14514.89555	44.42617268	1274834
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	175	Diesel	0.001731107	0.00209464	0.002492794	0.021676985	0.022914621	3.611283903	0.001394563	0.001282998	3.33362E-05	2.94748E-05	117164.1291	32331.96584	98.86387723	4230708
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	300	Diesel	0.000596335	0.000721565	0.000858722	0.003727721	0.011220748	1.853950228	0.000322255	0.000296474	1.71228E-05	1.51317E-05	60149.3734	9700.138285	29.40887487	2172005
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	750	Diesel	0.000147882	0.000178938	0.000212951	0.000735719	0.002023074	0.123314819	9.24844E-05	8.50856E-05	1.13567E-06	1.00648E-06	4000.81351	206.385921	0.625720742	144470.1
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	50	Diesel	7.22296E-06	8.73978E-06	1.04011E-05	0.000160167	0.000131062	0.026298942	5.2361E-07	4.81722E-07	2.4293E-07	2.14648E-07	853.2402015	570.4472076	1.42623002	27666.69
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	75	Diesel	6.36255E-05	7.69868E-05	9.16207E-05	0.000390015	0.000666308	0.0463368	4.69157E-05	4.31625E-05	4.26498E-07	3.78195E-07	1503.346454	855.6708114	2.139345031	54192.48
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	100	Diesel	9.75385E-05	0.000118022	0.000140455	0.000883685	0.001355107	0.125840994	8.68671E-05	7.99177E-05	1.16054E-06	1.0271E-06	4082.772474	1711.341623	4.278690061	147175.4
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	175	Diesel	0.000269387	0.000325958	0.000387917	0.002812208	0.003356276	0.474342508	0.000197822	0.000181996	4.37745E-06	3.87152E-06	15389.52028	3707.906849	9.270495133	554759.9
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	300	Diesel	0.000883846	0.001069454	0.001272739	0.007998444	0.013241003	4.276633453	0.000395442	0.000363806	3.95131E-05	3.49053E-05	138750.6625	20692.38638	52.05739575	5001685
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	600	Diesel	0.000801734	0.000970098	0.001154497	0.005499845	0.014655833	2.011254054	0.000471285	0.000433582	1.8571E-05	1.64156E-05	65252.92279	6302.269492	16.40164524	2352282
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	750	Diesel	9.45612E-05	0.000114419	0.000136168	0.000340925	0.00214687	0.168314787	5.49282E-05	5.0534E-05	1.55332E-06	1.37376E-06	5460.787891	312.5738124	1.42623002	196921.5
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	50	Diesel	0.000956721	0.001157632	0.001377678	0.003822109	0.002857076	0.2656999	0.000364731	0.000335552	2.42783E-06	2.16861E-06	8620.340647	9047.62002	12.56761629	408421.5
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	75	Diesel	0.000794556	0.000961412	0.00114416	0.012898974	0.010499621	1.902197094	0.000563808	0.000518703	1.75629E-05	1.55255E-05	61714.68983	48664.76877	66.38279375	3234790
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	100	Diesel	0.000662686	0.000801849	0.000954267	0.012887294	0.009893102	1.91170813	0.000323123	0.000297273	1.76548E-05	1.56031E-05	62023.26492	36356.09298	50.27046517	3254400
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	175	Diesel	2.50514E-05	3.03122E-05	3.6074E-05	0.00011697	0.000274974	0.017364685	1.87109E-05	1.72141E-05	1.59794E-07	1.41728E-07	563.378093	236.2367416	0.322246572	29529.59
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	300	Diesel	6.78655E-05	8.21173E-05	9.77264E-05	0.000229507	0.001434801	0.100020588	3.7206E-05	3.42295E-05	9.22704E-07	8.16355E-07	3245.057816	944.9469664	1.288986286	170090.5
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	50	Diesel	0.000334834	0.000405149	0.000482161	0.001691134	0.001351739	0.164862653	0.000121639	0.000111908	1.51419E-06	1.34559E-06	5348.7872	6175.962232	12.04275242	277339.3
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	75	Diesel	0.000770958	0.000932859	0.001110179	0.007006135	0.008922156	0.999120607	0.000631466	0.000580949	9.21424E-06	8.15469E-06	32415.36775	29721.81824	57.95574601	1867457
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	100	Diesel	0.000710909	0.0008602	0.001023709	0.006423236	0.007449099	0.899091103	0.000672795	0.000618972	8.29122E-06	7.33826E-06	29170.02068	19657.83705	38.76260934	1681475
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	175	Diesel	0.000110359	0.000133534	0.000158917	0.000643539	0.001126425	0.08240867	6.47075E-05	5.95309E-05	7.58598E-07	6.72608E-07	2673.658543	1240.471047	2.634352091	154126.9
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	300	Diesel	1.2248E-05	1.48201E-05	1.76372E-05	0.000102472	0.000149745	0.054385363	6.72831E-06	6.19004E-06	5.02452E-07	4.43886E-07	1764.473207	385.9976395	0.752672026	101710.4
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	600	Diesel	3.55226E-06	4.29823E-06	5.11525E-06	8.25703E-05	2.29096E-05	0.046955105	7.70961E-07	7.09284E-07	4.34017E-07	3.83241E-07	1523.406659	192.9988197	0.376336013	87814.46
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	750	Diesel	4.79436E-05	5.80117E-05	6.90387E-05	0.000739731	0.00064003	0.027537719	3.25632E-05	2.99581E-05	2.53162E-07	2.24759E-07	893.4309625	82.4781281	0.376336013	51548.83
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	25	Diesel	1.92411E-06	2.32817E-06	2.77071E-06	3.86421E-05	4.9261E-05	0.005842012	1.78535E-06	1.64253E-06	5.39546E-08	4.76817E-08	189.5376614	357.4456522	0.774809439	8936.141
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	50	Diesel	2.6881E-05	3.2526E-05	3.87086E-05	0.000245319	0.000209875	0.036859749	7.91366E-06	7.28057E-06	3.3998E-07	3.00844E-07	1195.873955	1242.144867	3.099237754	56388.11
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	75	Diesel	7.9045E-06	9.56444E-06	1.13825E-05	0.000107329	0.000153936	0.015554645	8.45193E-06	7.77578E-06	1.43573E-07	1.26955E-07	504.6533146	357.4456522	0.774809439	26450.98
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	100	Diesel	1.9581E-05	2.3693E-05	2.81967E-05	0.000461101	0.00035867	0.071677484	1.64099E-05	1.50971E-05	6.62106E-07	5.85022E-07	2325.497031	1429.782609	3.099237754	121889
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	175	Diesel	6.3236E-05	7.65155E-05	9.10598E-05	0.000733185	0.000704448	0.11445495	4.5284E-05	4.16613E-05	1.0563E-06	9.34166E-07	3713.364791	1599.59052	3.874047193	194650
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	300	Diesel	0.000269498	0.000326092	0.000388077	0.001707341	0.003838765	0.62587225	0.000151745	0.000139606	5.77841E-06	5.10829E-06	20305.73589	5174.047042	11.62214158	1064335
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	25	Diesel	4.96138E-05	6.00326E-05	7.14438E-05	0.000249695	0.00021644	0.024456044	2.17283E-05	1.999E-05	2.2462E-07	1.99607E-07	793.4494079	1648.187926	3.449746786	41204.7
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	50	Diesel	4.45675E-05	5.39267E-05	6.41772E-05	0.000419262	0.000411741	0.054576052	2.09177E-05	1.92442E-05	5.03246E-07	4.45442E-07	1770.659888	2458.672999	5.519594858	91947.72
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	100	Diesel	0.000849565	0.001027974	0.001223374	0.01645524	0.013251562	2.539538389	0.000578649	0.000532357	2.34538E-05	2.07274E-05	82392.52624	55243.02542	119.3612388	4754987
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	175	Diesel	0.000622938	0.000753755	0.000897031	0.020388774	0.008400146	3.610523841	0.000266992	0.000245632	3.33624E-05	2.94686E-05	117139.4697	50915.39804	106.9421504	6762763
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	300	Diesel	6.1132E-05	7.39697E-05	8.80301E-05	0.000672664	0.000677016	0.355165329	2.49336E-05	2.29389E-05	3.28185E-06	2.89881E-06	11522.94797	3117.948169	6.899493572	665232.8
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	600	Diesel	2.98415E-05	3.61082E-05	4.29717E-05	0.000596696	0.000164741	0.333672507	5.65301E-06	5.20077E-06	3.08407E-06	2.72339E-06	10825.63703	1977.825512	4.139696143	624992.9
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	750	Diesel	3.68673E-05	4.46094E-05	5.30889E-05	0.000664648	0.000182792	0.366758178	6.36778E-06	5.85836E-06	3.38976E-06	2.99343E-06	11899.06517	988.9127559	2.069848072	686964.7
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	25	Diesel	7.83064E-06	9.47508E-06	1.12761E-05	0.000158773	0.000122993	0.024211822	5.23978E-07	4.8206E-07	2.23615E-07	1.97614E-07	785.5259119	1511.008333	2.188735538	37775.21
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	50	Diesel	0.000320783	0.000388147	0.000461927	0.001467404	0.001126068	0.125176657	0.00011891	0.000109397	1.1477E-06	1.02168E-06	4061.218781	5768.214351	9.849309921	195285.8
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	75	Diesel	0.002157214	0.002610229	0.003106388	0.017284942	0.020696866	2.380930333	0.001733326	0.001594659	2.19482E-05	1.94328E-05	77246.66254	66826.14235	99.0402831	4135814
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	100	Diesel	0.001010079	0.001222196	0.001454514	0.005842018	0.008886211	0.758603041	0.000892469	0.000821072	6.98336E-06	6.19162E-06	24612.04022	14834.26435	22.98172315	1302535
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	175	Diesel	0.00028397	0.000343603	0.000408916	0.004029126	0.003309007	0.667799865	0.000183416	0.000168742	6.16562E-06	5.45049E-06	21666.03116	8052.715045	12.03804546	1158284
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	300	Diesel	0.000646731	0.000782545	0.000931293	0.003145918	0.01057476	1.040862069	0.000377625	0.000347415	9.60388E-06	8.49538E-06	33769.62353	8172.636341	12.58522934	1805337
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	600	Diesel	0.000324977	0.000393223	0.000467967	0.001898692	0.004044862	0.946287625	0.00013255	0.000121946	8.73915E-06	7.72347E-06	30701.25985	4155.272916	6.01902273	1641333
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	25	Diesel	7.35926E-06	8.9047E-06	1.05973E-05	3.615E-05	3.04368E-05	0.004037364	2.60305E-06	2.3948E-06	3.71067E-08	3.29524E-08	130.9878152	452.781055	1.157409414	11319.53
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	50	Diesel	0.000177755	0.000215084	0.000255968	0.000888609	0.000795361	0.088491118	7.44324E-05	6.84778E-05	8.12812E-07	7.22253E-07	2870.99687	6366.203097	16.7824365	248108.8
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	75	Diesel	7.03379E-05	8.51089E-05	0.000101287	0.000474238	0.000771818	0.058174483	5.62373E-05	5.17383E-05	5.35742E-07	4.74812E-07	1887.407046	2644.393556	7.523161191	181548.1
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	100	Diesel	0.000837855	0.001013805	0.001206512	0.007385786	0.009044051	1.067977642	0.000694832	0.000639245	9.84885E-06	8.71669E-06	34649.35842	37572.58365	100.1159143	3324138
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	175	Diesel	0.000374333	0.000452943	0.00053904	0.003541256	0.004935007	0.570661368	0.000262482	0.000241483	5.26482E-06	4.65766E-06	18514.47962	13538.4072	35.87969184	1779118
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	300	Diesel	0.00023636	0.000285996	0.000340358	0.001642416	0.004147319	0.482884175	0.000130543	0.0001201	4.45741E-06	3.94124E-06	15666.64526	6366.203097	16.7824365	1505155
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	600	Diesel	4.58666E-05	5.54986E-05	6.6048E-05	0.000164153	0.00103192	0.080041525	2.68303E-05	2.46839E-05	7.38648E-07	6.53288E-07	2596.859121	679.1715825	1.736114121	249482.4
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	25	Diesel	2.65312E-06	3.21027E-06	3.82049E-06	5.18948E-05	6.49756E-05	0.007654047	2.31169E-06	2.12676E-06	7.06859E-08	6.24713E-08	248.3271375	514.9445807	1.236641666	12873.61
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	50	Diesel	0.000109079	0.000131985	0.000157073	0.001237769	0.001235028	0.181970432	5.29552E-05	4.87188E-05	1.67913E-06	1.48522E-06	5903.835025	6829.791281	16.69466249	306066.8
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	75	Diesel	1.9245E-05	2.32865E-05	2.77128E-05	0.000544306	0.00033962	0.087025018	1.03465E-05	9.51882E-06	8.04012E-07	7.10286E-07	2823.430861	2317.250613	5.564887495	162722.5
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	100	Diesel	0.000601943	0.000728351	0.000866798	0.007794773	0.007143412	1.188434669	0.000470432	0.000432797	1.09696E-05	9.69984E-06	38557.45402	26275.72479	63.68704578	2220426
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	175	Diesel	9.6143E-05	0.000116333	0.000138446	0.001528657	0.001031517	0.257219515	6.67746E-05	6.14326E-05	2.37524E-06	2.09939E-06	8345.203875	3862.084355	9.274812492	480958.2
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	300	Diesel	0.000112452	0.000136067	0.000161931	0.001527388	0.001449091	0.539736546	4.87876E-05	4.48846E-05	4.98676E-06	4.40526E-06	17511.15782	4512.540668	11.12977499	1009264
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	25	Diesel	5.94759E-06	7.19658E-06	8.56452E-06	0.000121584	9.46907E-05	0.018676356	4.0089E-07	3.68819E-07	1.72494E-07	1.52434E-07	605.9338112	1256.687191	2.588751967	31417.18
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	50	Diesel	0.0026098	0.003157858	0.003758112	0.018479186	0.016939789	2.234979144	0.001129377	0.001039027	2.05852E-05	1.82416E-05	72511.43692	109087.8238	230.398925	3758858
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	75	Diesel	0.000675649	0.000817536	0.000972935	0.009646926	0.010304241	1.434944253	0.000577144	0.000530973	1.32465E-05	1.17118E-05	46555.18599	39463.6656	84.13443891	2683590
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	100	Diesel	0.000403615	0.000488374	0.000581205	0.008759649	0.005494998	1.380279969	0.000248097	0.000228249	1.27493E-05	1.12657E-05	44781.66349	29187.48196	60.83567121	2576139
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	175	Diesel	0.001160974	0.001404778	0.001671802	0.023126611	0.014178199	4.073823353	0.000652818	0.000600592	3.76297E-05	3.325E-05	132170.7122	47348.45577	99.66695071	7618663
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	300	Diesel	0.001142414	0.001382321	0.001645076	0.009232786	0.016256446	4.342750536	0.000562425	0.000517431	4.01166E-05	3.54449E-05	140895.7585	36038.27105	76.36818301	8121629
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	600	Diesel	0.000701517	0.000848835	0.001010184	0.006394195	0.009412969	2.708879515	0.000361542	0.000332619	2.50239E-05	2.21095E-05	87886.61256	14107.23567	29.77064762	5066020
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	50	Diesel	1.36805E-05	1.65534E-05	1.96999E-05	0.000124493	0.000157811	0.022686465	8.35756E-06	7.68896E-06	2.09337E-07	1.85164E-07	736.0373761	752.799521	13.34630544	32545.88
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	75	Diesel	2.80709E-06	3.39657E-06	4.0422E-06	0.000140881	8.59728E-05	0.024241422	9.94297E-07	9.14753E-07	2.2404E-07	1.97855E-07	786.4862305	706.6155013	18.96580247	38837.68
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	100	Diesel	3.39228E-06	4.10466E-06	4.88489E-06	1.53389E-05	3.8481E-05	0.001633519	2.04057E-06	1.87732E-06	1.50009E-08	1.33326E-08	52.99772442	26.17094449	0.702437128	2617.094
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	175	Diesel	6.98936E-06	8.45713E-06	1.00647E-05	6.63461E-05	0.000109287	0.010674667	6.5868E-06	6.05986E-06	9.84829E-08	8.71252E-08	346.3277995	153.9467323	0.702437128	16934.14
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	300	Diesel	2.28534E-06	2.76526E-06	3.29089E-06	1.56345E-05	5.2307E-05	0.008902678	1.11611E-06	1.02682E-06	8.22411E-08	7.26625E-08	288.8375981	52.34188899	1.404874257	14263.16
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	600	Diesel	7.20073E-07	8.71288E-07	1.0369E-06	1.75798E-05	4.88471E-06	0.010046142	1.63434E-07	1.50359E-07	9.286E-08	8.19953E-08	325.9360052	52.34188899	1.404874257	16095.13
South Coast AQMD	2021	CHC - AE Barge and Dredge	Aggregate		Diesel	0.003700079	0.004477096	0.005328114	0.045798467	0.116872535	3.368749467	0.003015733	0.002774474	3.10348E-05	0.000195041	775301.1635	0	0	0
South Coast AQMD	2021	CHC - AE Charter Fishing	Aggregate		Diesel	0.023335756	0.028236265	0.033603489	0.097642588	0.134507198	1.75058645	0.007366995	0.006777636	1.5485E-05	0.000101354	402888.8835	0	0	0
South Coast AQMD	2021	CHC - AE Commercial Fishing	Aggregate		Diesel	0.020395843	0.02467897	0.029370013	0.09500212	0.186248766	1.65717505	0.010316351	0.009491043	1.47095E-05	9.59459E-05	381390.7079	0	0	0
South Coast AQMD	2021	CHC - AE Crew and Supply	Aggregate		Diesel	0.002512652	0.003040309	0.003618219	0.009347146	0.011736914	0.196235519	0.000443821	0.000408315	1.73892E-06	1.13615E-05	45162.64199	0	0	0
South Coast AQMD	2021	CHC - AE Ferry and Excursion	Aggregate		Diesel	0.018652506	0.022569532	0.026859609	0.106795448	0.127882671	2.206006864	0.00447273	0.004114912	1.98361E-05	0.000127722	507701.6577	0	0	0
South Coast AQMD	2021	CHC - AE Others	Aggregate		Diesel	0.001138062	0.001377055	0.001638809	0.004783477	0.006939419	0.081734972	0.000394721	0.000363144	7.21539E-07	4.73223E-06	18810.90284	0	0	0
South Coast AQMD	2021	CHC - AE Pilot Vessels	Aggregate		Diesel	0.000187895	0.000227353	0.000270568	0.000618774	0.000664777	0.00941192	4.26741E-05	3.92602E-05	8.1381E-08	5.44925E-07	2166.107206	0	0	0
South Coast AQMD	2021	CHC - AE Tow Boats	Aggregate		Diesel	0.000243664	0.000294833	0.000350876	0.001419063	0.001833368	0.029992325	7.02028E-05	6.45865E-05	2.69984E-07	1.73647E-06	6902.586499	0	0	0
South Coast AQMD	2021	CHC - AE Tug Boats	Aggregate		Diesel	0.008921183	0.010794632	0.012846504	0.053447845	0.066427511	1.129012935	0.002353637	0.002165346	1.01706E-05	6.53668E-05	259836.7882	0	0	0
South Coast AQMD	2021	CHC - AE Work Boats	Aggregate		Diesel	0.00086351	0.001044848	0.001243455	0.005178674	0.007863939	0.10113652	0.000299966	0.000275969	9.09152E-07	5.85553E-06	23276.07396	0	0	0
South Coast AQMD	2021	CHC - ME Barge and Dredge	Aggregate		Diesel	0.000570779	0.000690643	0.000821922	0.005277745	0.021327341	0.402727469	0.000584734	0.000537955	3.70629E-06	2.33168E-05	92685.75121	0	0	0
South Coast AQMD	2021	CHC - ME Charter Fishing	Aggregate		Diesel	0.196148182	0.2373393	0.282453382	1.240083554	2.673830214	29.22952367	0.112115503	0.103146263	0.000264357	0.00169231	6727031.479	0	0	0
South Coast AQMD	2021	CHC - ME Commercial Fishing	Aggregate		Diesel	0.056967817	0.068931059	0.082033657	0.267161079	1.023849472	6.448347435	0.044633129	0.041062479	5.79091E-05	0.000373342	1484055.528	0	0	0
South Coast AQMD	2021	CHC - ME Crew and Supply	Aggregate		Diesel	0.047035017	0.05691237	0.067730424	0.348400848	0.384171652	7.364762562	0.008910399	0.008197567	6.66798E-05	0.0004264	1694963.974	0	0	0
South Coast AQMD	2021	CHC - ME Ferry and Excursion	Aggregate		Diesel	0.299124405	0.36194053	0.430739144	2.721211511	2.930546596	55.78045754	0.074483576	0.06852489	0.000506744	0.003229536	12837598.66	0	0	0
South Coast AQMD	2021	CHC - ME Others	Aggregate		Diesel	0.020048428	0.024258598	0.028869736	0.111560168	0.299011396	2.736261555	0.013575785	0.012489722	2.46966E-05	0.000158422	629737.1733	0	0	0
South Coast AQMD	2021	CHC - ME Pilot Vessels	Aggregate		Diesel	0.013533219	0.016375195	0.019487835	0.087470766	0.173360387	2.196312045	0.007314453	0.006729297	1.99E-05	0.00012716	505470.4425	0	0	0
South Coast AQMD	2021	CHC - ME Tow Boats	Aggregate		Diesel	0.002118974	0.002563959	0.003051323	0.01933499	0.020548974	0.404311424	0.000463566	0.00042648	3.67449E-06	2.34085E-05	93050.29087	0	0	0
South Coast AQMD	2021	CHC - ME Tug Boats	Aggregate		Diesel	0.152004178	0.183925055	0.218886016	1.36414543	1.633476081	28.0747145	0.047790395	0.043967164	0.000255005	0.001625449	6461257.813	0	0	0
South Coast AQMD	2021	CHC - ME Work Boats	Aggregate		Diesel	0.006048821	0.007319074	0.008710303	0.039742674	0.076104704	0.906309368	0.003143633	0.002892143	8.19781E-06	5.24728E-05	208582.6548	0	0	0
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	50	Diesel	0.000375907	0.000454847	0.000541305	0.003351802	0.00236859	0.320976578	3.96339E-05	3.64632E-05	2.95631E-06	2.61977E-06	10413.7316	7315.427302	2.236089393	329194.2
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	75	Diesel	0.001043034	0.001262071	0.001501969	0.00989487	0.010925969	1.4344083	0.000203527	0.000187245	1.32305E-05	1.17074E-05	46537.79757	21923.57973	6.861697744	1470236
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	100	Diesel	0.00079047	0.000956469	0.001138277	0.01192288	0.005086311	1.782702024	0.000110365	0.000101536	1.64583E-05	1.45502E-05	57837.80389	21683.0554	7.456379606	1819043
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	175	Diesel	0.002451586	0.002966419	0.003530284	0.032417588	0.02373136	4.856456247	0.000341433	0.000314118	4.48268E-05	3.96377E-05	157562.3745	40151.15785	13.36248114	5563201
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	300	Diesel	0.004262217	0.005157283	0.006137592	0.026250731	0.041507912	9.715905025	0.000508569	0.000467884	8.97005E-05	7.92999E-05	315221.8384	45396.59144	15.57133417	11143045
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	600	Diesel	0.015246943	0.018448801	0.021955598	0.098280203	0.14539345	40.5650587	0.001570513	0.001444872	0.000374587	0.000331087	1316088.655	121576.8453	41.49176252	45880341
South Coast AQMD	2021	CHE - Port Container Handling Equipment	Aggregate	175	Diesel	0.006477998	0.007838377	0.009328317	0.099400754	0.056497457	15.60188865	0.000694724	0.000639146	0.000144053	0.000127341	506186.0949	108750.9964	45.04255139	16547725
South Coast AQMD	2021	CHE - Port Container Handling Equipment	Aggregate	300	Diesel	0.034801115	0.042109349	0.050113605	0.252013089	0.303485137	114.0767084	0.003219524	0.002961962	0.001053652	0.000931079	3701093.171	480275.531	197.7922821	1.22E+08
South Coast AQMD	2021	CHE - Port Container Handling Equipment	Aggregate	600	Diesel	0.035227139	0.042624838	0.05072708	0.254024965	0.254753286	123.5058293	0.003113325	0.002864259	0.001140816	0.001008038	4007010.615	393376.7281	159.4790181	1.31E+08
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	50	Diesel	0.000258821	0.000313173	0.000372702	0.003320894	0.002756328	0.408623516	6.32097E-05	5.81529E-05	3.77016E-06	3.33513E-06	13257.33995	18060.11189	19.73381452	763323.9
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	75	Diesel	0.000287279	0.000347607	0.000413681	0.004665989	0.004414098	0.761713196	8.77584E-05	8.07377E-05	7.0338E-06	6.217E-06	24712.94578	20943.28328	22.7655423	1424818
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	100	Diesel	0.000857155	0.001037157	0.001234303	0.024964423	0.003938564	4.242400832	0.000151316	0.000139211	3.91974E-05	3.46259E-05	137640.0228	92443.88535	102.7687833	7966986
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	175	Diesel	0.002449667	0.002964097	0.00352752	0.059189195	0.023031846	10.08013807	0.000411259	0.000378358	9.31224E-05	8.22727E-05	327038.9783	143367.0227	154.2788479	21061793
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	300	Diesel	0.001199677	0.001451609	0.001727535	0.011285329	0.010010047	5.58269178	0.00014898	0.000137062	5.15788E-05	4.55652E-05	181124.2866	55030.59885	61.67348073	11691050
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	600	Diesel	0.000279547	0.000338252	0.000402548	0.003288029	0.001841156	1.734727533	3.46675E-05	3.18941E-05	1.603E-05	1.41586E-05	56281.32434	11282.57488	12.51102858	3637092
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	50	Diesel	0.001420093	0.001718312	0.002044933	0.012018966	0.00889637	1.194237721	0.00017063	0.00015698	1.09987E-05	9.74721E-06	38745.72763	28890.67185	13.59748937	1318456
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	75	Diesel	0.000641822	0.000776605	0.000924224	0.006620762	0.007165503	0.997793831	0.000142603	0.000131195	9.20584E-06	8.14386E-06	32372.32196	17302.00259	9.013405058	1094150
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	100	Diesel	0.001268477	0.001534857	0.001826607	0.01685168	0.008096551	2.565017573	0.000188226	0.000173168	2.36768E-05	2.09353E-05	83219.17031	34138.41422	16.93589404	2848412
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	175	Diesel	0.002538971	0.003072155	0.003656119	0.032764169	0.025718535	5.113238876	0.000424555	0.00039059	4.71983E-05	4.17336E-05	165893.4041	46606.89408	24.65822377	6186687
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	300	Diesel	0.001727791	0.002090627	0.002488019	0.01095153	0.017246563	4.311628255	0.000212503	0.000195503	3.98113E-05	3.51909E-05	139886.0303	23981.5438	12.00924595	5443203
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	600	Diesel	0.003272151	0.003959303	0.004711898	0.033702853	0.0342187	6.07622352	0.000496494	0.000456774	5.60795E-05	4.95933E-05	197136.3803	15959.94643	7.252521344	7415061
South Coast AQMD	2021	CHE - Port RTG Crane	Aggregate	300	Diesel	0.000829986	0.001004283	0.001195179	0.005751623	0.007107438	2.086620521	9.35256E-05	8.60435E-05	1.92669E-05	1.70307E-05	67698.10481	28545.90701	15.70570589	6541239
South Coast AQMD	2021	CHE - Port RTG Crane	Aggregate	600	Diesel	0.009973955	0.012068485	0.014362495	0.066599889	0.079159958	31.53887764	0.000868605	0.000799116	0.000291293	0.000257416	1023244.151	198946.9454	105.0654792	98974018
South Coast AQMD	2021	CHE - Port RTG Crane	Aggregate	750	Diesel	0.010743902	0.013000122	0.015471219	0.072131421	0.082088034	34.95818869	0.000910089	0.000837282	0.000322883	0.000285324	1134179.933	166743.7592	87.3274613	1.1E+08
South Coast AQMD	2021	CHE - Port RTG Crane	Aggregate	9999	Diesel	0.006747172	0.008164078	0.009715927	0.03773649	0.106573145	18.27121145	0.00145245	0.001336254	0.000168724	0.000149127	592789.3333	59707.38166	32.11296875	57289233
South Coast AQMD	2021	CHE - Port Yard Tractor	Aggregate	175	Diesel	0.020675346	0.025017168	0.029772498	1.708876329	0.129096417	275.2604827	0.004757356	0.004376767	0.002544299	0.002246639	8930523.215	2555153.218	1079.640638	4.43E+08
South Coast AQMD	2021	CHE - Port Yard Tractor	Aggregate	300	Diesel	0.018225162	0.022052446	0.026244234	0.543761185	0.099780702	255.7923256	0.003642847	0.00335142	0.00236438	0.002087743	8298900.301	1867802.128	741.2102392	4.11E+08
South Coast AQMD	2021	CHE - Port Yard Tractor	Aggregate	600	Diesel	0.000149425	0.000180804	0.000215172	0.004170382	0.000959367	2.057943078	2.94384E-05	2.70833E-05	1.90222E-05	1.67967E-05	66767.69674	10340.80695	4.766625333	3309058
South Coast AQMD	2021	CHE - Rail Container Handling Equipment	Aggregate	175	Diesel	0.001856084	0.002245862	0.002672762	0.023399747	0.018990015	3.650127453	0.000268059	0.000246614	3.36916E-05	2.97918E-05	118424.3653	26263.7804	14.45828069	3893998
South Coast AQMD	2021	CHE - Rail Container Handling Equipment	Aggregate	300	Diesel	0.003923652	0.004747619	0.005650059	0.02349268	0.03766047	9.569807736	0.000408008	0.000375367	8.83599E-05	7.81075E-05	310481.8727	46950.27495	12.35649257	10171094
South Coast AQMD	2021	CHE - Rail Container Handling Equipment	Aggregate	600	Diesel	0.001049208	0.001269542	0.00151086	0.006881206	0.010275244	2.292298989	0.00014076	0.000129499	2.1162E-05	1.87094E-05	74371.1162	6981.139645	3.161165111	2418746
South Coast AQMD	2021	CHE - Rail Forklift	Aggregate	75	Diesel	4.17058E-05	5.0464E-05	6.00563E-05	0.000517485	0.000553586	0.081227328	2.01932E-05	1.85778E-05	7.49736E-07	6.62967E-07	2635.331216	2450.203308	1.907831099	152729.3
South Coast AQMD	2021	CHE - Rail Forklift	Aggregate	100	Diesel	0.000126248	0.00015276	0.000181797	0.002701955	0.000477706	0.418119834	1.80082E-05	1.65675E-05	3.86194E-06	3.41264E-06	13565.43755	9417.982025	3.93246463	775309.7
South Coast AQMD	2021	CHE - Rail Forklift	Aggregate	175	Diesel	0.00049183	0.000595114	0.000708235	0.009715481	0.003351994	1.489168834	4.71984E-05	4.34226E-05	1.37533E-05	1.21544E-05	48314.4428	19154.05996	6.115833946	3098488
South Coast AQMD	2021	CHE - Rail Forklift	Aggregate	300	Diesel	3.31381E-05	4.0097E-05	4.77188E-05	0.000247765	0.00033265	0.111557246	5.98414E-06	5.50541E-06	1.03041E-06	9.10515E-07	3619.351977	971.6300641	0.756551935	233191.2
South Coast AQMD	2021	CHE - Rail Other General Industrial Equipment	Aggregate	50	Diesel	0.00061823	0.000748059	0.000890251	0.004565094	0.003307452	0.408339666	9.00788E-05	8.28725E-05	3.75676E-06	3.33281E-06	13248.13076	9678.012332	2.67956639	451640.6
South Coast AQMD	2021	CHE - Rail Other General Industrial Equipment	Aggregate	175	Diesel	1.27558E-05	1.54346E-05	1.83684E-05	0.000197624	0.00017445	0.035042813	2.25117E-06	2.07108E-06	3.23606E-07	2.86015E-07	1136.925477	374.6852554	0.822660607	43088.8
South Coast AQMD	2021	CHE - Rail Other General Industrial Equipment	Aggregate	300	Diesel	0.000279088	0.000337697	0.000401887	0.001748262	0.002985029	0.662753097	3.72707E-05	3.4289E-05	6.11911E-06	5.4093E-06	21502.29433	3913.376794	2.89115096	897082.7
South Coast AQMD	2021	CHE - Rail RTG Crane	Aggregate	300	Diesel	0.008249169	0.009981494	0.011878803	0.050243355	0.076918936	20.60045191	0.000743568	0.000684083	0.000190214	0.000168138	668358.9749	241619.182	51.10742664	64584281
South Coast AQMD	2021	CHE - Rail RTG Crane	Aggregate	600	Diesel	0.003086805	0.003735034	0.004445	0.018623246	0.026229837	8.689078479	0.000252362	0.000232173	8.02422E-05	7.09191E-05	281907.582	81498.43907	20.16726589	27287797
South Coast AQMD	2021	CHE - Rail Yard Tractor	Aggregate	175	Diesel	0.015285997	0.018496057	0.022011836	1.009130847	0.068362825	162.0358925	0.002744572	0.002525006	0.001497644	0.001322515	5257076.081	1632669.64	387.2883083	2.6E+08
South Coast AQMD	2021	CHE - Rail Yard Tractor	Aggregate	300	Diesel	0.005622179	0.006802837	0.008095938	0.137122559	0.0258551	66.11933459	0.000994242	0.000914702	0.000611137	0.000539657	2145168.993	531581.0972	141.8071036	1.06E+08
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	50	Diesel	0.00061382	0.000742722	0.000883901	0.004754152	0.004844009	0.625950303	0.000304115	0.000279786	5.76881E-06	5.10892E-06	20308.26822	17573.27857	49.95691984	690022.5
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	75	Diesel	0.00034978	0.000423233	0.000503683	0.00473976	0.005882929	0.711288905	0.000328976	0.000302658	6.56573E-06	5.80544E-06	23076.98517	12290.01485	30.50001422	895066.5
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	100	Diesel	0.000981698	0.001187855	0.001413646	0.020059947	0.014532011	3.192574913	0.00064282	0.000591394	2.94875E-05	2.60574E-05	103579.5771	47944.17852	122.0000569	4021909
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	175	Diesel	0.001094064	0.001323817	0.001575452	0.02509765	0.013684633	4.518445938	0.000602821	0.000554595	4.17425E-05	3.68789E-05	146596.0023	37675.6844	120.4224699	5622045
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	300	Diesel	0.0013781	0.001667501	0.001984464	0.013171923	0.019673347	6.436351337	0.000599015	0.000551094	5.94659E-05	5.25326E-05	208820.3308	38990.71183	121.4741946	8105856
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	600	Diesel	0.002026352	0.002451885	0.002917946	0.022160808	0.025245116	11.74124631	0.000838283	0.00077122	0.000108493	9.58305E-05	380931.8059	35623.29169	103.0690136	14822349
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	750	Diesel	0.000734207	0.00088839	0.001057258	0.009354801	0.008235549	5.121596085	0.000307568	0.000282962	4.73297E-05	4.18018E-05	166164.5445	9861.815214	19.98276794	6351089
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	9999	Diesel	0.000969815	0.001173476	0.001396533	0.006407327	0.025816093	3.383597063	0.000628269	0.000578008	3.12539E-05	2.76165E-05	109777.0803	2274.433453	3.155173885	4231268
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	25	Diesel	1.91471E-05	2.31679E-05	2.75718E-05	0.000108231	9.70727E-05	0.011968639	7.37114E-06	6.78144E-06	1.10082E-07	9.76864E-08	388.3092975	937.9999156	1.981318883	23450
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	50	Diesel	0.000601951	0.00072836	0.000866809	0.002553382	0.00204028	0.193922404	0.000216927	0.000199573	1.77485E-06	1.58277E-06	6291.598819	9123.503154	21.13406809	376158.4
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	75	Diesel	0.000160556	0.000194272	0.0002312	0.000672369	0.001466302	0.078759221	0.000136198	0.000125302	7.23351E-07	6.42822E-07	2555.256191	2449.387697	6.604396278	170403.6
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	100	Diesel	0.004544456	0.005498792	0.006544016	0.034385883	0.048605211	4.425942549	0.003362805	0.00309378	4.07837E-05	3.61239E-05	143594.8317	109798.9297	250.9670586	9674891
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	175	Diesel	0.010387373	0.012568722	0.014957818	0.088818928	0.128353722	13.37142198	0.006886431	0.006335516	0.000123314	0.000109136	433821.06	198591.2842	439.1923525	29082336
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	300	Diesel	0.013017825	0.015751568	0.018745668	0.078258191	0.186729379	23.31812657	0.00755807	0.006953425	0.000215197	0.000190319	756530.9362	230022.4833	492.6879624	50800606
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	600	Diesel	0.016964366	0.020526883	0.024428687	0.164647702	0.239447753	40.35583213	0.009507024	0.008746462	0.000372601	0.000329379	1309300.53	238703.8291	488.064885	88018036
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	750	Diesel	0.000641539	0.000776262	0.000923816	0.006276033	0.008207247	0.630891178	0.000424238	0.000390299	5.81366E-06	5.14925E-06	20468.56947	2138.460857	5.283517023	1369314
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	9999	Diesel	0.00269052	0.003255529	0.003874349	0.027679577	0.037083477	2.228552041	0.001771881	0.00163013	2.05234E-05	1.81891E-05	72302.91666	5171.675211	10.56703405	4852082
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	50	Diesel	0.001855603	0.002245279	0.002672068	0.007993932	0.006108144	0.627988649	0.000642412	0.000591019	5.7504E-06	5.12556E-06	20374.40013	19770.22897	58.61580733	831867.1
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	75	Diesel	0.000235516	0.000284975	0.000339143	0.00092382	0.002256838	0.077134475	0.000165467	0.00015223	7.06081E-07	6.29561E-07	2502.543086	1604.780092	8.7923711	112146.3
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	100	Diesel	0.028659544	0.034678049	0.041269744	0.207529998	0.291784702	27.67585453	0.024049096	0.022125168	0.000255017	0.000225887	897912.6207	461822.6223	997.6410408	40371105
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	175	Diesel	0.020732304	0.025086088	0.029854518	0.190122692	0.25285601	30.26170689	0.014086325	0.012959419	0.000279163	0.000246992	981807.7526	296640.1258	662.3586228	44240463
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	300	Diesel	0.019503654	0.023599421	0.028085261	0.124232614	0.289454409	31.87377567	0.011550089	0.010626082	0.000294104	0.000260149	1034109.549	226581.052	515.2329464	46637994
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	600	Diesel	0.04357134	0.052721321	0.062742729	0.343966786	0.61223295	110.0935632	0.023297193	0.021433418	0.001016562	0.000898569	3571864.413	418768.1923	890.9602714	1.61E+08
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	750	Diesel	0.001160896	0.001404684	0.001671691	0.006926992	0.022145037	2.016147089	0.000639602	0.000588434	1.86055E-05	1.64555E-05	65411.67192	4719.707884	10.55084532	2952192
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	9999	Diesel	0.003835972	0.004641526	0.0055238	0.020591958	0.076636823	6.412432029	0.002123219	0.001953361	5.9171E-05	5.23374E-05	208044.2951	9621.401139	17.5847422	9368169
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	25	Diesel	4.24914E-05	5.14146E-05	6.11876E-05	0.000144382	9.80703E-05	0.007597152	1.36681E-05	1.25746E-05	6.89647E-08	6.20069E-08	246.4812165	448.9107584	1.761990512	11222.77
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	50	Diesel	0.019822736	0.023985511	0.02854474	0.190512455	0.167382086	25.10881903	0.008604608	0.007916239	0.000231549	0.000204935	814627.9812	1036383.757	1433.085616	37088692
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	75	Diesel	0.000543832	0.000658037	0.000783118	0.011664629	0.010005211	1.820808345	0.000440062	0.000404857	1.6818E-05	1.48612E-05	59074.12148	40242.82708	51.68505502	2995233
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	100	Diesel	0.013445052	0.016268513	0.019360875	0.205604438	0.165935695	30.78971426	0.009447285	0.008691502	0.000284263	0.000251302	998938.3705	620899.2783	981.4287152	50801206
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	175	Diesel	0.023480461	0.028411358	0.033811864	0.402834627	0.26657872	68.81594673	0.012978104	0.011939855	0.000635533	0.000561667	2232657.605	773581.3202	1323.254875	1.13E+08
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	300	Diesel	0.022975333	0.027800153	0.033084479	0.1875247	0.294887165	88.10938526	0.009095568	0.008367922	0.000813926	0.000719137	2858611.97	661179.9015	1148.230484	1.45E+08
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	600	Diesel	0.034455441	0.041691084	0.049615835	0.317458813	0.3828129	154.9086238	0.012871469	0.011841751	0.001431173	0.001264343	5025839.698	754351.7604	1186.994275	2.55E+08
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	750	Diesel	0.000801239	0.000969499	0.001153784	0.006054526	0.011969107	2.181526191	0.000368785	0.000339282	2.01453E-05	1.78053E-05	70777.21476	5595.801906	9.984612902	3549053
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	9999	Diesel	0.00110908	0.001341987	0.001597075	0.009684423	0.02706674	4.336610891	0.000510144	0.000469332	4.00608E-05	3.53948E-05	140696.5644	5910.105746	8.80995256	7115092
South Coast AQMD	2021	ConstMin - Graders	Aggregate	25	Diesel	1.34538E-05	1.62791E-05	1.93735E-05	6.32187E-05	4.99365E-05	0.004827903	6.00188E-06	5.52173E-06	4.42327E-08	3.94047E-08	156.6359825	266.5357149	1.180419517	6663.393
South Coast AQMD	2021	ConstMin - Graders	Aggregate	50	Diesel	0.000542983	0.00065701	0.000781896	0.002233841	0.001602081	0.161250833	0.000184144	0.000169412	1.47455E-06	1.31611E-06	5231.605693	5962.403942	17.11608299	222590.3
South Coast AQMD	2021	ConstMin - Graders	Aggregate	75	Diesel	0.000215716	0.000261016	0.000310631	0.001798922	0.002157449	0.241518794	0.000149548	0.000137584	2.22649E-06	1.97124E-06	7835.811274	5086.834119	12.98461468	372143.2
South Coast AQMD	2021	ConstMin - Graders	Aggregate	100	Diesel	0.005753796	0.006962093	0.008285466	0.030688149	0.054002676	3.432087909	0.004462659	0.004105646	3.15587E-05	2.80122E-05	111350.3124	59366.83246	163.4881031	5332976
South Coast AQMD	2021	ConstMin - Graders	Aggregate	175	Diesel	0.032593857	0.039438567	0.046935154	0.280043134	0.377937506	42.09835308	0.021070601	0.019384953	0.000388242	0.000343601	1365834.703	433844.1812	929.5803694	64430604
South Coast AQMD	2021	ConstMin - Graders	Aggregate	300	Diesel	0.045839922	0.055466306	0.066009488	0.225737988	0.678635026	88.64819415	0.022372618	0.020582808	0.000818221	0.000723535	2876093.031	628054.7635	836.9174373	1.36E+08
South Coast AQMD	2021	ConstMin - Graders	Aggregate	600	Diesel	0.002026695	0.002452301	0.002918441	0.00818439	0.032159861	3.815114979	0.000988171	0.000909117	3.52118E-05	3.11385E-05	123777.2039	16565.86102	21.83776106	5833094
South Coast AQMD	2021	ConstMin - Graders	Aggregate	9999	Diesel	0.002373105	0.002871457	0.003417271	0.012039669	0.039375869	3.007512888	0.001238439	0.001139364	2.77348E-05	2.45469E-05	97575.44347	2550.746791	3.54125855	4615122
South Coast AQMD	2021	ConstMin - Off-Highway Tractors	Aggregate	25	Diesel	1.44238E-05	1.74528E-05	2.07703E-05	4.7959E-05	3.30236E-05	0.002523531	4.5401E-06	4.17689E-06	2.28986E-08	2.05967E-08	81.87319901	130.8525156	0.579512818	3271.313
South Coast AQMD	2021	ConstMin - Off-Highway Tractors	Aggregate	50	Diesel	0.013255354	0.016038979	0.01908771	0.095166559	0.079809296	10.42376818	0.005461483	0.005024564	9.59752E-05	8.50774E-05	338187.6788	358107.3507	549.3781513	13530067
South Coast AQMD	2021	ConstMin - Off-Highway Tractors	Aggregate	75	Diesel	0.003467336	0.004195477	0.004992965	0.04851916	0.042126223	7.076066808	0.002331796	0.002145253	6.53177E-05	5.77539E-05	229575.1947	143443.1446	228.9075631	10175166

South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	100	Diesel	0.004608823	0.005576675	0.006636705	0.044588151	0.051381428	6.143044135	0.004134147	0.003803415	5.66572E-05	5.01387E-05	199304.3016	110966.2045	170.3767685	8832602
South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	175	Diesel	0.00463641	0.005610056	0.00667643	0.069102757	0.057488545	11.33399714	0.002794703	0.002571126	0.000104649	9.25066E-05	367719.0552	103218.4271	152.4118711	16323473
South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	300	Diesel	0.003165217	0.003829913	0.004557913	0.022112076	0.041034878	9.718412593	0.001415011	0.00130181	8.97566E-05	7.93204E-05	315303.1937	65300.63938	101.9942559	14023142
South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	600	Diesel	0.007350286	0.008893846	0.010584412	0.063896078	0.078155316	31.7450747	0.002660731	0.002447872	0.000293278	0.000259099	1029933.988	128009.7447	187.762153	45824078
South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	750	Diesel	0.000494417	0.000598244	0.00071196	0.002826109	0.004600976	1.400935632	0.000229521	0.000211159	1.29375E-05	1.14342E-05	45451.81373	3219.626146	4.636102543	2051252
South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	9999	Diesel	0.000680657	0.000823595	0.000980146	0.004252556	0.011987292	1.760616941	0.000317968	0.000292531	1.62574E-05	1.43699E-05	57121.27766	1551.256572	2.897564089	2537181
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	25	Diesel	0.000136725	0.000165437	0.000196883	0.00062503	0.000406839	0.044383763	4.17922E-05	3.84488E-05	4.06248E-07	3.62254E-07	1439.982307	2624.117239	1.722562352	65602.93
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	50	Diesel	0.00105166	0.001272508	0.00151439	0.009018768	0.007412174	0.95970669	0.000487347	0.000448359	8.84141E-06	7.833E-06	31136.62664	49419.36209	31.00612233	1427615
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	75	Diesel	0.000151	0.00018271	0.00021744	0.002291303	0.001325785	0.301962664	5.35337E-05	4.9251E-05	2.78726E-06	2.46458E-06	9796.846085	6981.007547	4.593499605	496563.5
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	100	Diesel	0.000434245	0.000525437	0.000625313	0.005175821	0.004657294	0.695529376	0.000337645	0.000310633	6.41749E-06	5.67682E-06	22565.6846	13034.36891	10.33537411	1141423
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	175	Diesel	0.010604605	0.012831572	0.015270631	0.151119368	0.10352209	23.83718259	0.005251933	0.004831778	0.000220068	0.000194556	773371.1373	248516.4786	179.1464846	39213946
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	300	Diesel	0.019173248	0.02319963	0.027609477	0.126691719	0.196739715	48.62551533	0.007677717	0.007063499	0.000448992	0.000396875	1577601.293	379991.3645	301.4484116	80259615
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	600	Diesel	0.073620032	0.089080239	0.106012847	0.533017679	0.779767397	208.5486681	0.028649119	0.026357189	0.001925927	0.001702146	6766131.862	910127.8718	676.3928168	3.43E+08
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	750	Diesel	0.031624465	0.038265603	0.04553923	0.249816975	0.342672395	69.80315181	0.013689158	0.012594025	0.000644416	0.000569724	2264686.386	173180.0693	144.1210501	1.15E+08
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	9999	Diesel	0.046966827	0.05682986	0.06763223	0.307868735	0.911506155	124.7464172	0.020903722	0.019231425	0.001151933	0.001018163	4047260.121	161368.9487	115.4116776	2.05E+08
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	50	Diesel	0.007935825	0.009602349	0.011427588	0.050483279	0.04662961	5.615329336	0.003629204	0.003338867	5.16784E-05	4.58316E-05	182183.1761	199587.0937	424.5773715	7598836
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	75	Diesel	0.00093073	0.001126184	0.001340252	0.005169609	0.009530441	0.586443807	0.000726046	0.000667963	5.39404E-06	4.78648E-06	19026.52345	12282.90798	40.57199647	895480.5
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	100	Diesel	0.012334362	0.014924578	0.017761481	0.118391831	0.139002979	17.04761327	0.010054898	0.009250507	0.000157244	0.00013914	553091.0378	314149.2907	708.0099103	25760928
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	175	Diesel	0.00499746	0.006046926	0.007196342	0.058168527	0.063002448	9.593831415	0.003300673	0.003036619	8.85498E-05	7.83036E-05	311261.2946	95508.49645	233.7175571	14539704
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	300	Diesel	0.005531562	0.006693191	0.00796545	0.03666861	0.081995528	12.68156579	0.003083386	0.002836716	0.000117081	0.000103505	411439.4359	87095.8109	217.1458966	19064673
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	600	Diesel	0.015416195	0.018653596	0.022199321	0.138226754	0.21365827	48.48154307	0.007676236	0.007062137	0.000447773	0.0003957	1572930.272	192329.217	435.4346664	73371659
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	750	Diesel	0.002971356	0.003595341	0.004278753	0.01997786	0.042949012	9.46535961	0.001438273	0.001323211	8.74228E-05	7.7255E-05	307093.1683	23311.00973	46.85779874	14330172
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	9999	Diesel	0.000783956	0.000948587	0.001128897	0.00586782	0.019620794	3.089817399	0.000420061	0.000386456	2.85434E-05	2.52187E-05	100245.7227	5110.835498	10.85729483	4669491
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	50	Diesel	0.001166398	0.001411341	0.001679613	0.006196358	0.005378468	0.68833501	0.000432378	0.000397788	6.32901E-06	5.6181E-06	22332.27134	24121.17072	68.77986059	936172.8
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	75	Diesel	0.001982297	0.002398579	0.002854507	0.009523728	0.017745452	1.21285279	0.001719284	0.001581742	1.1154E-05	9.89914E-06	39349.67304	25250.35419	73.36518463	1839737
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	100	Diesel	0.002326697	0.002815303	0.003350443	0.035303948	0.03246238	5.413723357	0.001829844	0.001683457	4.99828E-05	4.41861E-05	175642.2922	101280.3154	258.4976427	8212524
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	175	Diesel	0.003714489	0.004494532	0.005348865	0.052093259	0.047082967	9.103394268	0.002304122	0.002119792	8.4054E-05	7.43007E-05	295349.6014	86974.9521	228.119871	13728905
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	300	Diesel	0.001868364	0.00226072	0.002690444	0.013765088	0.033146072	7.118700362	0.000972899	0.000895067	6.57599E-05	5.81019E-05	230958.3934	48620.89292	109.4746114	10767509
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	600	Diesel	0.000306372	0.00037071	0.000441176	0.002404981	0.00456515	1.274116665	0.000157719	0.000145101	1.17706E-05	1.03992E-05	41337.312	5232.422643	12.0364756	1922110
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	750	Diesel	5.03282E-05	6.08971E-05	7.24726E-05	0.000491612	0.000599329	0.266416604	2.65235E-05	2.44017E-05	2.46164E-06	2.17446E-06	8643.593327	536.4430338	1.14633101	402332.3
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	50	Diesel	0.000713828	0.000863732	0.001027912	0.006200733	0.005717038	0.857199794	0.000295048	0.000271444	7.90382E-06	6.99635E-06	27810.90329	39437.19094	84.69207729	1368401
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	75	Diesel	0.000138058	0.00016705	0.000198804	0.001058562	0.001462285	0.138198572	0.000104233	9.58946E-05	1.27357E-06	1.12796E-06	4483.700467	3641.171111	9.155900247	244519.4
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	100	Diesel	0.001897221	0.002295638	0.002731999	0.024003095	0.02249119	3.61504612	0.001424736	0.001310757	3.3366E-05	2.95055E-05	117286.1901	71341.36997	157.3670355	6382525
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	175	Diesel	0.001442869	0.001745871	0.002077731	0.022210151	0.017561087	3.809241095	0.000878572	0.000808287	3.5175E-05	3.10905E-05	123586.6322	46211.73322	100.7149027	6742435
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	300	Diesel	0.000876931	0.001061087	0.001262781	0.005996411	0.013014263	2.751805238	0.000472475	0.000434677	2.54155E-05	2.24599E-05	89279.29039	20761.65274	44.63501371	4852828
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	600	Diesel	0.000889361	0.001076127	0.00128068	0.005734075	0.013752931	2.620481519	0.000431251	0.000396751	2.4201E-05	2.1388E-05	85018.63693	11457.80157	25.17872568	4620547
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	750	Diesel	0.000101309	0.000122584	0.000145885	0.001017685	0.001217464	0.554313442	3.03482E-05	2.79204E-05	5.12186E-06	4.52423E-06	17984.08916	1529.21434	2.861218827	978279.4
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	9999	Diesel	3.75298E-05	4.5411E-05	5.40429E-05	0.000466325	0.001109867	0.251691809	1.80806E-05	1.66342E-05	2.32589E-06	2.05427E-06	8165.863568	527.1816229	1.144487531	444421.9
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	25	Diesel	1.22302E-05	1.47986E-05	1.76115E-05	4.07858E-05	2.87055E-05	0.002211691	3.876E-06	3.56592E-06	2.00813E-08	1.80515E-08	71.75589089	133.1237737	0.589571648	3328.094
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	50	Diesel	0.016822147	0.020354798	0.024223891	0.110447188	0.104550277	14.13396464	0.007058637	0.006493946	0.000130171	0.0001536	458560.917	594944.7884	1738.646789	21243772
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	75	Diesel	0.000342164	0.000414019	0.000492716	0.001365355	0.003347	0.11802825	0.000236482	0.000217563	1.08096E-06	9.63331E-07	3829.296574	2818.23029	12.3810046	196846.1
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	100	Diesel	0.01183121	0.014315764	0.017036943	0.144802762	0.146226688	21.97434362	0.008907395	0.008194803	0.000202809	0.000179352	712933.3782	420989.9564	1284.676621	36717588
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	175	Diesel	0.006898511	0.008347198	0.009933855	0.126595112	0.091601646	22.84471379	0.004209871	0.003873081	0.000211004	0.000186455	741171.5801	265858.826	749.935136	38235713
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	300	Diesel	0.001363881	0.001650296	0.001963988	0.011072633	0.02037551	3.782936152	0.000722431	0.000664637	3.49342E-05	3.08758E-05	122733.1973	29246.62747	96.1001786	6321506
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	600	Diesel	0.00053374	0.000645826	0.000768586	0.00580385	0.007784505	2.219073092	0.000256395	0.000235884	2.05004E-05	1.81118E-05	71995.38259	10557.38087	34.78472722	3689664
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	25	Diesel	1.11408E-06	1.34803E-06	1.60427E-06	2.38875E-05	3.17381E-05	0.003820188	1.04818E-06	9.64322E-07	3.52861E-08	3.11799E-08	123.9418031	214.3108806	0.68037913	5357.772
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	50	Diesel	0.000979467	0.001185155	0.001410433	0.005681146	0.00537297	0.716173463	0.000371124	0.000341434	6.59199E-06	5.84531E-06	23235.45927	21123.83232	78.24359991	1005060
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	75	Diesel	5.39452E-05	6.52737E-05	7.7681E-05	0.000219238	0.000539375	0.019630621	3.66127E-05	3.36837E-05	1.79876E-07	1.60222E-07	636.8938631	461.6517536	2.041137389	30626.1
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	100	Diesel	0.012294797	0.014876704	0.017704507	0.340547062	0.220911824	55.8937531	0.006708699	0.006172003	0.000516397	0.000456197	1813411.263	905690.8398	3239.285036	87145210
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	175	Diesel	0.005642598	0.006827544	0.008125341	0.073077705	0.061658618	12.74203471	0.004161603	0.003828675	0.000117637	0.000103999	413401.2833	159463.4261	592.6102219	19876031
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	300	Diesel	0.00016069	0.000194435	0.000231394	0.001688789	0.002685495	0.908170557	6.15869E-05	5.66599E-05	8.39167E-06	7.41237E-06	29464.59354	6735.814022	27.21516519	1416293
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	600	Diesel	5.04753E-05	6.10751E-05	7.26844E-05	0.000611983	0.000908021	0.336991889	1.94792E-05	1.79209E-05	3.11414E-06	2.75048E-06	10933.3307	1377.273867	5.443033037	529505.3
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	750	Diesel	9.6127E-06	1.16314E-05	1.38423E-05	0.000106845	0.00014698	0.058098078	1.03608E-06	9.53189E-07	5.36857E-07	4.74189E-07	1884.928147	145.1783385	0.68037913	90736.46
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	50	Diesel	0.000990003	0.001197903	0.001425604	0.006171152	0.004591244	0.607589526	0.000362331	0.000333344	5.58777E-06	4.95906E-06	19712.57303	21017.07966	21.87594696	866863.3
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	75	Diesel	0.001102625	0.001334176	0.00158778	0.005027744	0.00966617	0.490657643	0.000778344	0.000716077	4.50329E-06	4.00468E-06	15918.84685	11198.17463	17.38857322	771082.9
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	100	Diesel	0.003061832	0.003704817	0.004409038	0.01909847	0.028830745	2.36429657	0.002540006	0.002336806	2.17672E-05	1.92971E-05	76706.9984	44304.44468	49.92203281	3717741
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	175	Diesel	0.002805333	0.003394453	0.00403968	0.01913524	0.033150553	2.616325888	0.001896586	0.001744859	2.41051E-05	2.13541E-05	84883.81208	28274.39354	37.58175503	4152362
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	300	Diesel	0.002957478	0.003578549	0.004258769	0.019067532	0.038099065	2.873281543	0.001841596	0.001694268	2.64762E-05	2.34513E-05	93220.45531	20875.85968	30.85069443	4555896
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	600	Diesel	0.024055418	0.029107056	0.034639802	0.230544521	0.307060233	31.85867371	0.013715837	0.01261857	0.000293828	0.000260026	1033619.582	136243.7192	189.0306186	50251332
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	750	Diesel	0.000348095	0.000421195	0.000501257	0.001853323	0.006205899	0.906433508	0.000173859	0.000159951	8.36998E-06	7.39819E-06	29408.23692	2211.39093	2.243686868	1438405
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	50	Diesel	0.00366765	0.004437856	0.005281415	0.021590631	0.016654281	1.964496431	0.001370023	0.001260421	1.80527E-05	1.6034E-05	63735.92321	73491.39476	86.52825668	3052328
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	100	Diesel	0.037703644	0.045621409	0.054293247	0.356712758	0.386207946	47.82577274	0.02898017	0.026661756	0.000441042	0.000390348	1551654.526	973903.5541	1075.172054	83807066
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	175	Diesel	0.061611458	0.074549864	0.088720499	0.72220379	0.671754361	113.4619875	0.036740057	0.033800853	0.001047164	0.000926061	3681149.228	1313866.931	1410.176724	1.97E+08
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	300	Diesel	0.067545603	0.081730179	0.097265668	0.392091218	0.915851917	158.9115028	0.030685098	0.02823029	0.001467189	0.001297014	5155708.7	1337946.683	1278.630388	2.76E+08
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	600	Diesel	0.091637186	0.110880995	0.131957548	0.610759471	1.094627527	218.5503539	0.041236954	0.037937998	0.002017857	0.001783779	7090625.541	1155926.439	1186.840277	3.81E+08
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	750	Diesel	0.007131229	0.008628788	0.01026897	0.060307026	0.084385627	19.11949497	0.002987863	0.002748834	0.000176555	0.000156051	620310.9578	51280.28075	54.37248562	33273134
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	9999	Diesel	0.006316279	0.007642698	0.009095442	0.032512318	0.131912945	14.67285114	0.003263977	0.003002859	0.000135468	0.000119758	476044.4961	26575.4494	22.80136494	25444532
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	50	Diesel	0.000129739	0.000156984	0.000186824	0.000460396	0.000329346	0.030216736	4.24626E-05	3.90656E-05	2.75477E-07	2.46625E-07	980.3487336	1116.654651	3.468415239	36123.88
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	75	Diesel	0.000689436	0.000834217	0.000992788	0.003216176	0.005963592	0.362405392	0.000529073	0.000486747	3.32993E-06	2.9579E-06	11757.84382	7052.349594	16.76400699	468412.4
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	100	Diesel	0.001368459	0.001655835	0.00197058	0.011938503	0.017372822	1.596289007	0.001291626	0.001188296	1.47174E-05	1.30287E-05	51789.83885	22868.90451	37.57449842	2068886
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	175	Diesel	0.014360333	0.017376003	0.02067888	0.138612254	0.173749847	21.41692328	0.009305191	0.008560775	0.000197579	0.000174802	694848.4894	165889.4579	375.166915	27718638
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	300	Diesel	0.015642312	0.018927197	0.022524929	0.091880716	0.211616417	25.30367902	0.009213653	0.00847656	0.000233476	0.000206525	820949.9988	147774.3304	368.8081537	33017914
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	600	Diesel	0.135785186	0.164300076	0.195530668	1.182653013	1.878318692	312.8650618	0.071575877	0.065849807	0.002888519	0.002553563	10150562.37	962569.3616	2029.600984	4.06E+08
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	750	Diesel	0.005375167	0.006503952	0.00774024	0.06121014	0.089137486	4.994098803	0.003633666	0.003342973	4.60117E-05	4.07612E-05	162028.0357	10384.69246	27.1692527	6461737
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	9999	Diesel	0.006949859	0.008409329	0.010007796	0.085981405	0.10983864	7.239737417	0.004393246	0.004041786	6.67265E-05	5.90898E-05	234885.3073	5894.57908	15.02979937	9414097
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	50	Diesel	0.006124056	0.007410107	0.00881864	0.067639144	0.064765427	10.69417284	0.002289028	0.002105906	9.86892E-05	8.72844E-05	346960.6602	374581.0809	1203.821574	16318309
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	75	Diesel	0.015506352	0.018762685	0.022329146	0.346123595	0.248726147	55.80689428	0.009982873	0.009184243	0.000515497	0.000455488	1810593.225	1347656.352	3817.373718	94997169
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	100	Diesel	0.000307499	0.000372074	0.000442799	0.006165476	0.005623783	0.950379223	0.000366287	0.000336984	8.7775E-06	7.75687E-06	30834.00723	21611.49658	67.44265637	1640579
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	175	Diesel	9.42508E-05	0.000114043	0.000135721	0.002078631	0.001219485	0.383591496	5.09375E-05	4.68625E-05	3.54367E-06	3.13082E-06	12445.20364	4300.332716	16.11461701	654720.6
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	300	Diesel	5.5872E-05	6.76052E-05	8.04557E-05	0.000658246	0.000832658	0.356377005	2.37364E-05	2.18375E-05	3.29321E-06	2.9087E-06	11562.25944	2958.752892	10.14624034	606619.8
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	600	Diesel	2.52496E-05	3.0552E-05	3.63594E-05	0.000192925	0.000404444	0.103064611	1.74403E-05	1.60451E-05	9.52126E-07	8.41199E-07	3343.817792	370.6021613	1.193675334	175220.7
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	9999	Diesel	6.61286E-05	8.00156E-05	9.52252E-05	0.000449383	0.001196536	0.139512164	3.95555E-05	3.6391E-05	1.28788E-06	1.13868E-06	4526.318501	237.1853833	1.193675334	237185.4
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	50	Diesel	6.92429E-05	8.37839E-05	9.97097E-05	0.00065008	0.000692474	0.099076242	3.37184E-05	3.10209E-05	9.13932E-07	8.08647E-07	3214.419573	5090.87263	21.11675045	182876.4
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	75	Diesel	5.49687E-05	6.65122E-05	7.9155E-05	0.000470641	0.000802445	0.066491175	4.81621E-05	4.43092E-05	6.13095E-07	5.42692E-07	2157.232946	2043.562344	8.121827098	137747
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	100	Diesel	0.000259246	0.000313687	0.000373314	0.003725447	0.003467837	0.576821095	0.000187349	0.000172361	5.32522E-06	4.70794E-06	18714.32518	13453.40116	50.35532801	1196884
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	175	Diesel	0.000225684	0.000273077	0.000324985	0.003062572	0.00316153	0.53341804	0.000154425	0.000142071	4.92494E-06	4.35369E-06	17306.16086	8198.089918	31.94585325	1109558
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	300	Diesel	0.000367841	0.000445088	0.000529691	0.002852012	0.006461492	1.05182146	0.000212887	0.000195856	9.71358E-06	8.58483E-06	34125.18889	9589.399489	39.52622521	2188330
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	600	Diesel	0.000638752	0.00077289	0.000919803	0.006751121	0.009430232	3.327875413	0.000340334	0.000313108	3.07487E-05	2.71617E-05	107969.2528	17050.2665	60.64297566	6925018
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	750	Diesel	0.000349815	0.000423277	0.000503734	0.003178748	0.005398241	1.656735028	0.0002095	0.00019274	1.53068E-05	1.3522E-05	53750.94342	5422.195032	18.40947476	3452256
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	9999	Diesel	0.000151293	0.000183065	0.000217862	0.001173324	0.003879482	0.545643309	8.43645E-05	7.76153E-05	5.0402E-06	4.45347E-06	17702.79625	1296.558699	4.873096259	1135569
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	50	Diesel	0.011177397	0.01352465	0.016095452	0.065453417	0.053799245	6.518907537	0.004567279	0.004201897	5.99352E-05	5.32064E-05	211498.7757	226571.0283	324.2745519	8077800
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	75	Diesel	0.001457813	0.001763954	0.002099251	0.012715055	0.015543989	1.74680332	0.001102267	0.001014085	1.61063E-05	1.42572E-05	56673.10995	33051.54379	57.393726	2402688
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	100	Diesel	0.005453738	0.006599023	0.007853383	0.058669231	0.059724915	8.328384464	0.004433676	0.004078982	7.68364E-05	6.79752E-05	270205.2619	145046.306	206.6174136	11471641
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	175	Diesel	0.001510264	0.00182742	0.00217478	0.015420648	0.017604942	2.513154285	0.000889042	0.000817918	2.319E-05	2.0512E-05	81536.52304	21642.12599	30.41867478	3459112
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	300	Diesel	0.000438567	0.000530666	0.000631536	0.003183131	0.006053301	1.509263511	0.000192981	0.000177543	1.39407E-05	1.23184E-05	48966.39245	9906.132401	13.77449424	2077354
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	600	Diesel	0.000165187	0.000199876	0.000237869	0.002703266	0.002278433	0.203824285	0.000115037	0.000105834	1.8795E-06	1.66359E-06	6612.854443	850.1338115	1.14787452	280544.2
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	9999	Diesel	0.000105988	0.000128245	0.000152622	0.000527351	0.0021145	0.261883323	6.09805E-05	5.61021E-05	2.41806E-06	2.13746E-06	8496.516011	425.0669058	0.57393726	360456.7
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	50	Diesel	0.022922452	0.027736167	0.033008331	0.179840472	0.15506466	21.14022444	0.009336211	0.008589314	0.000194764	0.000172544	685871.3001	860823.4062	1684.785388	32643549
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	75	Diesel	0.00759154	0.009185763	0.010931817	0.030556442	0.072090807	2.995737902	0.005773089	0.005311242	2.74693E-05	2.44508E-05	97193.41701	71162.44431	317.5849808	5109654
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	100	Diesel	0.148722123	0.179953768	0.214159857	2.252209207	1.842612731	336.9350878	0.107115714	0.098546457	0.00311067	0.002750019	10931487.86	6880011.414	11121.93169	5.72E+08
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	175	Diesel	0.02053828	0.024851319	0.029575123	0.347536515	0.231887226	58.80477856	0.011705654	0.010769202	0.000543063	0.000479957	1907856.278	702109.9605	1279.732455	1.01E+08
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	300	Diesel	0.012189404	0.014749179	0.017552742	0.084816578	0.168311517	35.43805157	0.00577434	0.005312393	0.000327277	0.000289241	1149748.555	293119.761	533.0261785	60383898
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	600	Diesel	0.014305506	0.017309662	0.020599928	0.125090979	0.172547839	50.07908842	0.006247659	0.005747847	0.000462577	0.000408739	1624760.872	254532.2911	468.4525226	85981057
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	750	Diesel	0.000223841	0.000270847	0.000322331	0.001946025	0.002242828	0.94638334	5.37754E-05	4.94733E-05	8.74307E-06	7.72425E-06	30704.36522	2524.426308	4.69626589	1643764
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	9999	Diesel	0.004627005	0.005598676	0.006662887	0.032676525	0.10589582	16.53458035	0.002146413	0.0019747	0.000152732	0.000134953	536446.2498	15207.53113	24.65539592	28145238
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	50	Diesel	0.008490492	0.010273495	0.012226308	0.059247254	0.056620667	7.485679178	0.003978143	0.003659891	6.89541E-05	6.10971E-05	242864.6169	210362.7203	552.4570494	8391299
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	75	Diesel	0.00057168	0.000691733	0.00082322	0.003562435	0.005814369	0.431660869	0.000392118	0.000360749	3.97377E-06	3.52316E-06	14004.7615	7601.550456	28.25064457	536682.1
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	100	Diesel	0.00411938	0.00498445	0.005931907	0.035117389	0.046307728	4.99538201	0.003392443	0.003121047	4.60612E-05	4.07716E-05	162069.6679	74359.81954	227.8885329	6223930
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	175	Diesel	0.000711436	0.000860838	0.001024468	0.00699504	0.009046232	1.107792731	0.000463186	0.000426132	1.02208E-05	9.04166E-06	35941.11513	9698.089966	33.90077349	1385593
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	300	Diesel	0.001320923	0.001598316	0.001902128	0.007831137	0.019281048	2.632859953	0.000766759	0.000705418	2.43025E-05	2.1489E-05	85420.24161	14381.63732	46.45661552	3276268
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	600	Diesel	0.001204616	0.001457585	0.001734647	0.012795622	0.01627204	3.658592907	0.000642702	0.000591286	3.37894E-05	2.98609E-05	118699.0177	11783.28917	32.64518928	4546437
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	750	Diesel	0.000123039	0.000148878	0.000177177	0.002126328	0.001128244	1.188145805	2.01575E-05	1.85449E-05	1.09813E-05	9.69749E-06	38548.08213	2296.412445	5.022336813	1484200
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	9999	Diesel	0.000177909	0.00021527	0.000256189	0.002570264	0.002465537	0.097686317	0.000114204	0.000105068	8.97821E-07	7.97303E-07	3169.32498	141.7538547	0.627792102	121908.3
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	50	Diesel	0.003195766	0.003866877	0.004601903	0.073041594	0.068553954	13.77769924	0.000622162	0.000572389	0.000127286	0.000112452	447002.2785	546731.325	1827.937173	25220016
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	75	Diesel	0.002708234	0.003276963	0.003899857	0.097620191	0.050321594	16.27202621	0.001145156	0.001053543	0.000150362	0.00013281	527927.97	458331.3569	1537.227014	33116931
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	100	Diesel	0.001386007	0.001677068	0.00199585	0.046973254	0.029056625	7.76842934	0.000368848	0.00033934	7.17814E-05	6.34049E-05	252038.1345	202522.8778	677.1735161	15807427
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	175	Diesel	0.000220842	0.000267219	0.000318013	0.00792714	0.00247136	1.46925598	8.41675E-05	7.74341E-05	1.35774E-05	1.19919E-05	47668.39218	22927.81652	76.77508654	2991240
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	300	Diesel	9.77293E-06	1.18252E-05	1.4073E-05	0.000158115	0.000112715	0.087799482	1.49673E-06	1.377E-06	8.11457E-07	7.16608E-07	2848.557493	777.1811054	2.587924266	178751.7
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	600	Diesel	5.57319E-06	6.74355E-06	8.02539E-06	0.000111493	3.07824E-05	0.062350357	1.05621E-06	9.71715E-07	5.76293E-07	5.08895E-07	2022.888655	259.0603685	0.862641422	126939.6
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	50	Diesel	0.013064929	0.015808564	0.018813497	0.087316769	0.071310788	9.272945023	0.005013651	0.004612559	8.5341E-05	7.56845E-05	300850.489	613240.4464	847.3907664	25997881
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	75	Diesel	0.002104286	0.002546186	0.003030172	0.008426886	0.020004698	0.803441239	0.001583495	0.001456816	7.36508E-06	6.55758E-06	26066.76617	34322.36276	67.9313259	2513727
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	100	Diesel	0.069926041	0.08461051	0.100693499	0.779177314	0.774746186	110.884601	0.054827343	0.050441156	0.001023085	0.000905025	3597528.761	4204105.97	5586.476152	3.47E+08
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	175	Diesel	0.017103057	0.020694699	0.024628403	0.216164727	0.195879606	35.30173556	0.010592802	0.009745378	0.000325869	0.000288128	1145325.932	780219.018	1053.285713	1.1E+08
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	300	Diesel	0.003082869	0.003730272	0.004439332	0.020435229	0.038461064	7.695490075	0.001509971	0.001389174	7.10561E-05	6.28096E-05	249671.7004	114210.2119	154.0710484	23973091
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	600	Diesel	0.000674204	0.000815787	0.000970854	0.004487936	0.007354071	1.93606295	0.000271905	0.000250152	1.78796E-05	1.58019E-05	62813.43021	16999.09697	23.81098021	6005191
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	9999	Diesel	2.06343E-05	2.49675E-05	2.97134E-05	0.000289847	0.000685795	0.153767468	5.98891E-06	5.5098E-06	1.42104E-06	1.25503E-06	4988.816152	545.5524143	0.700322947	480086.1
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	25	Diesel	1.21045E-05	1.46464E-05	1.74305E-05	4.02473E-05	2.77135E-05	0.002117754	3.81006E-06	3.50526E-06	1.92166E-08	1.72848E-08	68.70820727	139.8402371	0.619317172	3496.006
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	50	Diesel	0.023269772	0.028156424	0.033508471	0.17999816	0.149915307	19.94009031	0.009786519	0.009003598	0.000183658	0.000162748	646934.2701	934963.435	1129.634521	32837302
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	75	Diesel	0.006052939	0.007324056	0.008716232	0.090482438	0.075928189	13.14027745	0.004407726	0.004055108	0.000121307	0.000107249	426321.8305	336911.4897	401.9368445	24096044
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	100	Diesel	0.003959078	0.004790485	0.005701073	0.023391444	0.035992247	2.915368935	0.003285392	0.003022561	2.68353E-05	2.37948E-05	94585.93439	67906.41915	90.42030708	5342421
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	175	Diesel	0.003180896	0.003848884	0.00458049	0.046433451	0.035202376	7.507906648	0.001860156	0.001711343	6.93189E-05	6.12785E-05	243585.7627	92728.06124	112.7157253	13767796
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	300	Diesel	0.002940666	0.003558206	0.004234559	0.019389033	0.042123033	7.910651806	0.001355936	0.001247461	7.30497E-05	6.45657E-05	256652.3858	66624.08418	82.98850102	14486182
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	600	Diesel	0.00652514	0.007895419	0.009396202	0.055757854	0.065655921	23.48915952	0.00237705	0.002186886	0.000216973	0.000191715	762079.9119	113056.6365	134.3918263	43068279
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	750	Diesel	0.001057548	0.001279634	0.00152287	0.013506265	0.010098175	3.931939503	0.000480932	0.000442457	3.6321E-05	3.2092E-05	127567.4469	11387.19051	13.62497778	7197942
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	9999	Diesel	0.000396205	0.000479408	0.000570535	0.002667795	0.009702869	1.358928714	0.000196638	0.000180907	1.25521E-05	1.10914E-05	44088.94554	2142.352433	2.477268687	2493163
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	50	Diesel	0.001425735	0.00172514	0.002053059	0.009381415	0.00783336	0.9270103	0.000619771	0.000570189	8.5279E-06	7.56613E-06	30075.82826	37161.0448	49.46918251	1315296
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	75	Diesel	0.00019809	0.000239689	0.00028525	0.001791818	0.001915577	0.227946511	0.000153776	0.000141474	2.10154E-06	1.86047E-06	7395.473514	5163.738448	8.480431287	362639
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	100	Diesel	0.003655983	0.004423739	0.005264615	0.06579376	0.048753827	9.870774262	0.002197845	0.002022017	9.11505E-05	8.05639E-05	320246.4002	168457.3926	219.0778082	15648336
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	175	Diesel	0.003770701	0.004562549	0.00542981	0.046816852	0.038747694	7.4037396	0.00252196	0.002320203	6.83381E-05	6.04283E-05	240206.1775	86100.07275	118.726038	11733086
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	300	Diesel	0.00509473	0.006164623	0.007336411	0.027380071	0.064646234	11.73624788	0.002442659	0.002247246	0.000108355	9.57897E-05	380769.6371	78601.00327	105.2986885	18620051
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	600	Diesel	0.005563101	0.006731352	0.008010866	0.04286642	0.072400243	15.10960536	0.002590935	0.00238366	0.000139529	0.000123323	490214.5056	65517.72406	86.92442069	23938286
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	750	Diesel	0.000305205	0.000369299	0.000439496	0.001378039	0.003290819	0.666537441	0.00016395	0.000150834	6.15331E-06	5.44019E-06	21625.07321	1697.04445	2.120107822	1057824
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	9999	Diesel	0.000133354	0.000161359	0.00019203	0.002006791	0.004767698	1.077509457	4.083E-05	3.75636E-05	9.95811E-06	8.79449E-06	34958.60766	1697.04445	2.120107822	1710055
South Coast AQMD	2021 Locomotive - Line haul	Aggregate	9999	Diesel	0.3147009	0.380788089	0.453169296	3.893025807	10.8019507	0	0.160376323	0.146600107	0.01518769	0.012180328	0	0	0	0
South Coast AQMD	2021 Locomotive - Passenger	Aggregate	9999	Diesel	0.036992598	2.60983E-05	3.10591E-05	0.488650869	0.831702885	0	0.015160767	0.013947905	0.001373584	0.001549628	0	0	0	0
South Coast AQMD	2021 Locomotive - Short line	Aggregate	9999	Diesel	0.008791429	9.66115E-07	1.14976E-06	0.064449169	0.297339217	0	0.004875219	0.004485202	0.00023747	0.00021183	0	0	0	0
South Coast AQMD	2021 Locomotive - Switcher	Aggregate	9999	Diesel	0.190258261	0.00043589	0.000518745	0.511114155	2.951034927	0	0.062332973	0.057346335	0.001701791	0.001530623	0	0	0	0
South Coast AQMD	2021 Ocean Going Vessels	Aggregate		Diesel	1.814103925	2.342446734	2.798421779	3.329958796	35.13034002	2302.131834	0.660876649	0.608006517	2.13552926	0.030870834	72664364.84	0	0	1.43E+09
South Coast AQMD	2021 OFF - Agricultural - 2-Wheel Tractors	Aggregate	25	Gasoline	0.004280618	0.003937312	0.004710559	0.15449025	0.003182104	0.28465666	0.001808623	0.001366515	8.35938E-06	7.22583E-06	20626.15	50578.05	199.09	354064.6
South Coast AQMD	2021 OFF - Agricultural - Agricultural Mowers	Aggregate	25	Gasoline	0.003408419	0.003135064	0.003750757	0.143380117	0.002576048	0.240283303	0.001812868	0.001369722	6.35792E-06	6.34865E-06	18122.25	30864.4	171.28	385615.2
South Coast AQMD	2021 OFF - Agricultural - Agricultural Tractors	Aggregate	25	Diesel	0.020506696	0.024404663	0.029529643	0.116473983	0.186117299	24.73589477	0.007045309	0.006481685	0.000334978	0.000207061	823078.65	1139143.1	2138.09	20589088
South Coast AQMD	2021 OFF - Agricultural - Agricultural Tractors	Aggregate	100	Gasoline	0.003033737	0.002790431	0.003338442	0.116255703	0.007849149	2.165473092	0.000150982	0.000114075	2.09215E-05	3.12804E-05	89289.95	18173.35	33.02	1490215
South Coast AQMD	2021 OFF - Agricultural - Agricultural Tractors	Aggregate	175	Gasoline	0.000409284	0.00037646	0.000450392	0.016018264	0.001820681	0.439976757	3.15416E-05	2.38315E-05	4.37071E-06	6.17859E-06	17636.8	2482	4.54	310250
South Coast AQMD	2021 OFF - Agricultural - Balers	Aggregate	50	Gasoline	0.000537133	0.000494055	0.000591082	0.027893844	0.001017944	0.374316037	2.5805E-05	1.94971E-05	4.551E-06	5.56354E-06	15881.15	8205.2	120.67	287182
South Coast AQMD	2021 OFF - Agricultural - Balers	Aggregate	100	Gasoline	0.000248889	0.000228928	0.000273887	0.007506758	0.00093029	0.346127213	2.41328E-05	1.82337E-05	3.34407E-06	4.75286E-06	13567.05	4190.2	61.67	268172.8
South Coast AQMD	2021 OFF - Agricultural - Combines	Aggregate	100	Gasoline	7.2615E-05	6.67913E-05	7.99084E-05	0.003342828	0.000187185	0.184855549	1.28886E-05	9.73803E-06	1.78596E-06	2.51644E-06	7183.2	1029.3	8.24	106017.9
South Coast AQMD	2021 OFF - Agricultural - Combines	Aggregate	175	Gasoline	4.63679E-05	4.26492E-05	5.1025E-05	0.004951121	0.000178053	0.159031932	1.14009E-05	8.61401E-06	1.57982E-06	2.21468E-06	6321.8	573.05	4.58	93980.2
South Coast AQMD	2021 OFF - Agricultural - Combines	Aggregate	300	Gasoline	8.45323E-06	7.77528E-06	9.30227E-06	0.001081258	0.0001001	0.033750643	2.4898E-06	1.88118E-06	3.4501E-07	4.64161E-07	1324.95	83.95	0.85	16286.3
South Coast AQMD	2021 OFF - Agricultural - Hydro Power Units	Aggregate	25	Gasoline	0.003351409	0.003082626	0.003688022	0.129218408	0.002517515	0.223854465	0.0015895	0.001200956	6.16726E-06	5.84102E-06	16673.2	31379.05	80.94	308257.1
South Coast AQMD	2021 OFF - Agricultural - Hydro Power Units	Aggregate	25	Diesel	0.000138958	0.000165372	0.0002001	0.000735788	0.001262833	0.166736649	4.74891E-05	4.369E-05	2.18672E-06	1.39478E-06	5544.35	12081.5	14.83	202414.4
South Coast AQMD	2021 OFF - Agricultural - Hydro Power Units	Aggregate	50	Gasoline	3.05425E-05	2.8093E-05	3.36101E-05	0.002418424	4.77961E-05	0.025696766	1.77151E-06	1.33848E-06	3.12426E-07	3.89998E-07	1113.25	503.7	1.13	19140.6
South Coast AQMD	2021 OFF - Agricultural - Hydro Power Units	Aggregate	100	Gasoline	2.31014E-06	2.12486E-06	2.54217E-06	0.000113052	5.87299E-06	0.005516227	3.84605E-07	2.9059E-07	5.32944E-08	7.28848E-08	208.05	62.05	0.11	4095.3
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	25	Gasoline	0.000439729	0.000404463	0.000483895	0.015483176	0.00030691	0.028492651	0.000169844	0.000128326	8.22401E-07	7.10947E-07	2029.4	4533.3	31.45	39179.1
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	25	Diesel	0.000322107	0.000383334	0.000463834	0.001714619	0.002934229	0.385880685	0.000114412	0.000105259	5.07776E-06	3.22481E-06	12818.8	22746.8	50.96	440277.6
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	50	Gasoline	2.35659E-05	2.16759E-05	2.59328E-05	0.001433677	4.08207E-05	0.017580556	1.21199E-06	9.15724E-07	2.13748E-07	2.55736E-07	730	452.6	3.74	13125.4
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	100	Gasoline	0.000144221	0.000132655	0.000158707	0.005256205	0.00045581	0.23262974	1.62195E-05	1.22547E-05	2.24753E-06	3.19287E-06	9114.05	2708.3	21.73	181456.1
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	175	Gasoline	2.20002E-05	2.02357E-05	2.42098E-05	0.001648215	0.000114924	0.052357238	3.75346E-06	2.83594E-06	5.20114E-07	7.25012E-07	2069.55	284.7	2.51	38719.2
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	300	Gasoline	1.185E-05	1.08996E-05	1.30402E-05	0.001107351	0.000123086	0.034183788	2.52175E-06	1.90533E-06	3.49438E-07	4.71833E-07	1346.85	65.7	0.85	16162.2
South Coast AQMD	2021 OFF - Agricultural - Sprayers	Aggregate	25	Gasoline	0.007355416	0.006765511	0.008094186	0.256624689	0.004613564	0.451906908	0.002745849	0.002074641	1.24465E-05	1.1737E-05	33503.35	74193.55	756.38	696405.4
South Coast AQMD	2021 OFF - Agricultural - Sprayers	Aggregate	25	Diesel	3.30792E-05	3.93669E-05	4.7634E-05	0.000153753	0.000281196	0.035401559	1.29052E-05	1.18728E-05	4.49179E-07	2.95669E-07	1175.3	2149.85	19.68	40847.15
South Coast AQMD	2021 OFF - Agricultural - Sprayers	Aggregate	50	Gasoline	0.000104101	9.57518E-05	0.000114556	0.005472237	0.000195086	0.071064605	4.89913E-06	3.70156E-06	8.64016E-07	1.06131E-06	3029.5	1825	22.69	60225
South Coast AQMD	2021 OFF - Agricultural - Sprayers	Aggregate	100	Gasoline	0.000179594	0.00016519	0.000197632	0.005485807	0.000661528	0.244024733	1.7014E-05	1.2855E-05	2.35762E-06	3.35142E-06	9566.65	3069.65	38.2	208736.2
South Coast AQMD	2021 OFF - Agricultural - Sprayers	Aggregate	175	Gasoline	5.19112E-05	4.77479E-05	5.71251E-05	0.003431756	0.000337194	0.110187729	7.89929E-06	5.96835E-06	1.0946E-06	1.52802E-06	4361.75	660.65	8.6	92491
South Coast AQMD	2021 OFF - Agricultural - Swathers	Aggregate	100	Gasoline	0.000954034	0.00087752	0.001049856	0.029577222	0.003452659	1.260139689	8.786E-05	6.63831E-05	1.21747E-05	1.73607E-05	49556.05	11742.05	123.73	1033300
South Coast AQMD	2021 OFF - Agricultural - Swathers	Aggregate	175	Gasoline	0.000668923	0.000615275	0.000736109	0.043119918	0.004261691	1.377231155	9.87328E-05	7.45981E-05	1.36813E-05	1.91841E-05	54760.95	9011.85	94.8	1162529
South Coast AQMD	2021 OFF - Agricultural - Tillers	Aggregate	25	Gasoline	0.058327527	0.053649659	0.064185885	3.246593769	0.042763862	5.576017941	0.002549055	0.001925953	0.000158987	0.000144725	413117.95	865075.55	12166.3	6055529
South Coast AQMD	2021 OFF - AirGrSupp - A/C Tug Narrow Body	Aggregate	175	Gasoline	0.004366129	0.004015965	0.004804658	0.237453381	0.028345673	6.082418404	0.000436045	0.000329456	6.04225E-05	8.57663E-05	244820.1	25699.65	35.29	3340955
South Coast AQMD	2021 OFF - AirGrSupp - A/C Tug Wide Body	Aggregate	600	Gasoline	0.002506863	0.002305813	0.00275865	0.267745923	0.023985299	7.681745497	0.000566686	0.000428163	7.85254E-05	0.000107496	306848.2	8687	16.82	4343500
South Coast AQMD	2021 OFF - AirGrSupp - Air Conditioner	Aggregate	175	Gasoline	4.23534E-07	3.89567E-07	4.66073E-07	3.98536E-05	4.75453E-06	0.001299177	9.31372E-08	7.03703E-08	1.2906E-08	2.55736E-09	7.3	0	0.22	0
South Coast AQMD	2021 OFF - AirGrSupp - Air Conditioner	Aggregate	175	Nat Gas	0	0	2.1038E-07	0.000172221	2.1907E-05	0.00698177	0	0	0	0	361.35	3.65	1.53	474.5
South Coast AQMD	2021 OFF - AirGrSupp - Air Start Unit	Aggregate	175	Gasoline	4.35704E-05	4.00761E-05	4.79466E-05	0.003839612	0.0004581	0.12289275	8.8101E-06	6.65652E-06	1.22081E-06	1.70704E-06	4872.75	445.3	6.08	57889
South Coast AQMD	2021 OFF - AirGrSupp - Baggage Tug	Aggregate	100	Gasoline	0.035046889	0.032236128	0.038566963	2.576762779	0.208314816	64.47726014	0.004495509	0.003396607	0.00062294	0.000909913	2597350.95	501192.45	571.07	50119245
South Coast AQMD	2021 OFF - AirGrSupp - Baggage Tug	Aggregate	100	Nat Gas	0	0	0.001337143	0.468564426	0.056189695	10.59104052	0	0	0	0	589102.7	94520.4	113.74	9452040
South Coast AQMD	2021 OFF - AirGrSupp - Belt Loader	Aggregate	100	Gasoline	0.008482811	0.00780249	0.009334816	0.633979445	0.049985517	15.29789709	0.001066606	0.00080588	0.000147799	0.000216366	617616.5	218007.2	268.63	13080432
South Coast AQMD	2021 OFF - AirGrSupp - Belt Loader	Aggregate	100	Nat Gas	0	0	9.63962E-05	0.039826714	0.004645167	1.015891163	0	0	0	0	56031.15	16622.1	30.08	997326
South Coast AQMD	2021 OFF - AirGrSupp - Bobtail	Aggregate	100	Gasoline	0.004490764	0.004130605	0.004941812	0.330085734	0.026702237	8.269306718	0.000576556	0.00043562	7.9893E-05	0.000116691	333095.35	64272.85	73.25	6427285
South Coast AQMD	2021 OFF - AirGrSupp - Bobtail	Aggregate	100	Nat Gas	0	0	1.05707E-05	0.007288264	0.000659974	0.203867522	0	0	0	0	11179.95	1817.7	2.03	181770
South Coast AQMD	2021 OFF - AirGrSupp - Cargo Loader	Aggregate	100	Gasoline	0.002980835	0.002741772	0.003280227	0.222531063	0.017557287	5.373005241	0.000374619	0.000283045	5.19107E-05	7.59843E-05	216897.6	65648.9	91.08	4595423
South Coast AQMD	2021 OFF - AirGrSupp - Cargo Loader	Aggregate	100	Nat Gas	0	0	0.000170048	0.054638916	0.006659742	1.140438783	0	0	0	0	63820.25	15972.4	15.37	1118068
South Coast AQMD	2021 OFF - AirGrSupp - Cargo Tractor	Aggregate	100	Gasoline	0.090163818	0.082932679	0.099219781	7.76355913	0.41492526	91.28947921	0.006364922	0.004809052	0.000753695	0.00137623	3928454.85	760798.7	562.99	72275877
South Coast AQMD	2021 OFF - AirGrSupp - Cargo Tractor	Aggregate	175	Nat Gas	0	0	6.12521E-05	0.042712991	0.005379238	1.628730826	0	0	0	0	87917.55	9511.9	61.04	1480052
South Coast AQMD	2021 OFF - AirGrSupp - Cart	Aggregate	25	Gasoline	9.46815E-05	8.70881E-05	0.000104191	0.006027932	7.48867E-05	0.010315775	4.61525E-06	3.48708E-06	2.94131E-07	2.65966E-07	759.2	1306.7	8.81	15680.4
South Coast AQMD	2021 OFF - AirGrSupp - Catering Truck	Aggregate	300	Gasoline	0.012726721	0.011706038	0.01400498	0.615398126	0.072987346	14.08144899	0.001038795	0.000784868	0.000123008	0.0002001	571184.85	60057.1	59.04	12245643
South Coast AQMD	2021 OFF - AirGrSupp - Catering Truck	Aggregate	300	Nat Gas	0	0	5.81378E-05	0.031998313	0.003936245	1.078391994	0	0	0	0	58535.05	4931.15	10.9	1010886
South Coast AQMD	2021 OFF - AirGrSupp - Deicer	Aggregate	100	Gasoline	4.08428E-05	3.75672E-05	4.49451E-05	0.001362124	0.000262094	0.078147516	5.44863E-06	4.11674E-06	7.55014E-07	1.0677E-06	3047.75	365	17.11	33945
South Coast AQMD	2021 OFF - AirGrSupp - Forklift	Aggregate	50	Gasoline	0.003105105	0.002856076	0.003416979	0.287584193	0.006897777	2.215219285	0.000152715	0.000115385	2.6933E-05	3.55141E-05	101375.1	62436.9	85.82	3121845
South Coast AQMD	2021 OFF - AirGrSupp - Forklift	Aggregate	50	Nat Gas	0	0	0.000201859	0.055010709	0.014885533	4.464671	0	0	0	0	236041.85	146073	200.82	7303650
South Coast AQMD	2021 OFF - AirGrSupp - Fuel Truck	Aggregate	175	Gasoline	3.01491E-05	2.77311E-05	3.31772E-05	0.002788417	0.000336007	0.089300729	6.40191E-06	4.837E-06	8.87109E-07	1.23648E-06	3529.55	1182.6	54.79	153738
South Coast AQMD	2021 OFF - AirGrSupp - Fuel Truck	Aggregate	175	Nat Gas	0	0	1.68683E-05	0.008693189	0.001061233	0.280557765	0	0	0	0	15238.75	3912.8	6.9	547792
South Coast AQMD	2021 OFF - AirGrSupp - Generator	Aggregate	100	Gasoline	0.001092822	0.001005178	0.001202584	0.059163457	0.00385073	0.74936609	5.22476E-05	3.9476E-05	6.18684E-06	1.1214E-05	32010.5	3810.6	4.22	407734.2
South Coast AQMD	2021 OFF - AirGrSupp - Ground Power Unit	Aggregate	175	Gasoline	0.004940004	0.004543815	0.005436173	0.508607362	0.045337896	14.77730842	0.001059375	0.000800417	0.000146797	0.000206662	589916.65	57735.7	72.4	8660355
South Coast AQMD	2021 OFF - AirGrSupp - Hydrant truck	Aggregate	175	Gasoline	0.012674038	0.01165758	0.013947005	0.52853274	0.062214773	10.89493445	0.000781051	0.000590127	9.24873E-05	0.000156062	445478.85	56290.3	36.76	6839271
South Coast AQMD	2021 OFF - AirGrSupp - Lav Cart	Aggregate	25	Gasoline	5.89467E-05	5.42192E-05	6.48672E-05	0.003758154	4.6476E-05	0.006365885	2.85023E-06	2.15351E-06	1.81509E-07	1.67507E-07	478.15	803	5.44	9636
South Coast AQMD	2021 OFF - AirGrSupp - Lav Truck	Aggregate	175	Gasoline	0.00295438	0.002717439	0.003251115	0.218112328	0.019127943	5.536211983	0.000396887	0.00029987	5.49965E-05	7.80609E-05	222825.2	74894.35	61.65	9736266
South Coast AQMD	2021 OFF - AirGrSupp - Lav Truck	Aggregate	175	Nat Gas	0	0	5.81684E-06	0.003343266	0.000413168	0.115642642	0	0	0	0	6270.7	1715.5	4.46	223015
South Coast AQMD	2021 OFF - AirGrSupp - Lift	Aggregate	100	Gasoline	0.005078274	0.004670996	0.00558833	0.236935985	0.023006619	5.632387335	0.000392704	0.000296709	5.44167E-05	7.98485E-05	227927.9	48165.4	127.86	4816540
South Coast AQMD	2021 OFF - AirGrSupp - Lift	Aggregate	100	Nat Gas	0	0	1.18692E-05	0.005901242	0.000670011	0.166713834	0	0	0	0	9132.3	1616.95	4.75	161695
South Coast AQMD	2021 OFF - AirGrSupp - Maint. Truck	Aggregate	175	Gasoline	0.002580843	0.00237386	0.002840061	0.205595941	0.020846119	5.838326552	0.000418546	0.000316235	5.79977E-05	8.17819E-05	233446.7	39474.75	87.72	5131718
South Coast AQMD	2021 OFF - AirGrSupp - Other	Aggregate	50	Nat Gas	0	0	0.000216069	0.025444382	0.008584973	1.502620254	0	0	0	0	80270.8	29488.35	28.92	1474418
South Coast AQMD	2021 OFF - AirGrSupp - Other GSE	Aggregate	50	Gasoline	0.002526339	0.002323727	0.002780082	0.168054641	0.00524283	1.661779678	0.000114562	8.65577E-05	2.02042E-05	2.56478E-05	73211.7	28086.75	153.27	1404338
South Coast AQMD	2021 OFF - AirGrSupp - Passenger Stand	Aggregate	175	Gasoline	0.000949535	0.000873382	0.001044905	0.07363899	0.008834519	2.228997162	0.000159795	0.000120734	1.97272E-05	3.11129E-05	88811.8	13264.1	70.61	1659339
South Coast AQMD	2021 OFF - AirGrSupp - Passenger Stand	Aggregate	175	Nat Gas	0	0	1.80884E-07	0.000149552	1.90906E-05	0.006091231	0	0	0	0	288.35	3.65	2.57	602.25
South Coast AQMD	2021 OFF - AirGrSupp - Service Truck	Aggregate	300	Gasoline	0.015789036	0.014522756	0.017374871	0.816777956	0.09722606	19.62288924	0.00144759	0.001093735	0.000200592	0.000277894	793250.85	246564.8	292.91	44381664
South Coast AQMD	2021 OFF - AirGrSupp - Service Truck	Aggregate	300	Nat Gas	0	0	0.000179535	0.096020828	0.008875917	2.739761517	0	0	0	0	150022.3	37350.45	28.64	6723081
South Coast AQMD	2021 OFF - AirGrSupp - Sweeper	Aggregate	50	Nat Gas	0	0	1.67443E-06	0.000398444	0.000128108	0.033267133	0	0	0	0	1741.05	722.7	2.53	32521.5
South Coast AQMD	2021 OFF - AirGrSupp - Sweeper	Aggregate	100	Gasoline	0.000138962	0.000127817	0.000152919	0.006447926	0.000636318	0.156941934	1.09424E-05	8.26757E-06	1.29573E-06	2.21468E-06	6321.8	2445.5	6.74	130345.1
South Coast AQMD	2021 OFF - AirGrSupp - Water Truck	Aggregate	175	Gasoline	0.000199339	0.000183352	0.00021936	0.013926345	0.00166955	0.405613324	2.90782E-05	2.19702E-05	4.02934E-06	5.68118E-06	16216.95	5938.55	19.1	890782.5
South Coast AQMD	2021 OFF - ConstMin - Asphalt Pavers	Aggregate	25	Gasoline	0.007799443	0.007173927	0.008582811	0.326628295	0.005706849	0.533225763	0.004023033	0.003039625	1.38405E-05	1.42995E-05	40817.95	36215.3	91.34	623022.2
South Coast AQMD	2021 OFF - ConstMin - Asphalt Pavers	Aggregate	50	Gasoline	0.001228155	0.001129657	0.00135151	0.083211686	0.001770956	0.60144849	4.14633E-05	3.13278E-05	7.31252E-06	9.76529E-06	27875.05	12023.1	30.66	384739.2
South Coast AQMD	2021 OFF - ConstMin - Asphalt Pavers	Aggregate	100	Gasoline	0.000637103	0.000586007	0.000701093	0.025542892	0.001718713	0.622698544	4.3416E-05	3.28032E-05	6.01614E-06	8.81523E-06	25163.1	6588.25	16.81	401883.2
South Coast AQMD	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregate	25	Gasoline	0.002768096	0.002546094	0.00304612	0.121580035	0.002001455	0.19768325	0.001491463	0.001126883	5.07319E-06	5.30141E-06	15132.9	11563.2	93.3	192690.8
South Coast AQMD	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregate	25	Diesel	0.000328869	0.000391381	0.000473571	0.001765839	0.002987953	0.39501373	0.000112508	0.000103508	5.21331E-06	3.30745E-06	13147.3	19793.95	24.36	306800.7
South Coast AQMD	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregate	50	Gasoline	9.46265E-05	8.70374E-05	0.000104131	0.005114728	0.000171226	0.060889673	4.19768E-06	3.17158E-06	7.40307E-07	9.16814E-07	2617.05	985.5	9.52	31536
South Coast AQMD	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregate	100	Gasoline	0.000596714	0.000548858	0.000656648	0.018757146	0.002106979	0.76009579	5.29957E-05	4.00412E-05	7.34359E-06	1.04826E-05	29922.7	4675.65	43.59	411457.2
South Coast AQMD	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregate	175	Gasoline	0.000132172	0.000121572	0.000145447	0.008377613	0.000820517	0.261994725	1.87822E-05	1.4191E-05	2.60264E-06	3.65063E-06	10420.75	1142.45	10.76	143948.7

South Coast AQMD	2021 OFF - ConstMin - Cement and Mortar Mixers	Aggregate	25	Gasoline	0.109837334	0.10102838	0.120869287	3.757767673	0.073505094	6.873602366	0.038548066	0.029125205	0.000206821	0.000175412	500714.3	1295388.65	14068.45	8982311
South Coast AQMD	2021 OFF - ConstMin - Cement and Mortar Mixers	Aggregate	25	Diesel	0.000830527	0.000988396	0.001195959	0.005789415	0.007473348	1.011672571	0.00029448	0.000270921	1.51612E-05	8.47889E-06	33704.1	101970.05	339.62	1052167
South Coast AQMD	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregate	25	Gasoline	0.085008322	0.078190655	0.093546473	3.517609162	0.06506757	5.947841656	0.043779838	0.0330781	0.000163676	0.000156768	447493.65	562716.85	1980.14	5879588
South Coast AQMD	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregate	25	Diesel	2.73047E-05	3.24949E-05	3.93188E-05	0.0001342	0.000248463	0.032592334	9.28391E-06	8.5412E-06	4.13535E-07	2.6904E-07	1069.45	1438.1	2.39	25885.8
South Coast AQMD	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregate	50	Gasoline	0.001547647	0.001423525	0.001703091	0.114717399	0.002497597	1.397225258	9.63235E-05	7.27777E-05	1.69877E-05	2.09883E-05	59911.1	21644.5	35.43	757557.5
South Coast AQMD	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregate	50	Diesel	0.00045193	0.000537835	0.00065078	0.004039094	0.003662845	0.512237335	0.000166085	0.000152798	6.62195E-06	4.30648E-06	17118.5	12380.8	21.27	408566.4
South Coast AQMD	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregate	100	Gasoline	0.000636024	0.000585015	0.000699906	0.031267164	0.001598716	1.493205574	0.00010411	7.86608E-05	1.44264E-05	2.04678E-05	58425.55	12391.75	20.3	817855.5
South Coast AQMD	2021 OFF - ConstMin - Cranes	Aggregate	50	Gasoline	0.000431134	0.000396557	0.000474437	0.027522683	0.000641845	0.184606841	1.27266E-05	9.61568E-06	2.24448E-06	3.04326E-06	8687	4478.55	10.76	165706.4
South Coast AQMD	2021 OFF - ConstMin - Cranes	Aggregate	100	Gasoline	0.000895481	0.000823664	0.000985423	0.0331792	0.002461896	0.730131483	5.09065E-05	3.84627E-05	7.05409E-06	1.04097E-05	29714.65	8979	21.67	664446
South Coast AQMD	2021 OFF - ConstMin - Cranes	Aggregate	175	Gasoline	3.88277E-05	3.57137E-05	4.27275E-05	0.001701795	0.000184216	0.047979649	3.43963E-06	2.59883E-06	4.76628E-07	6.8793E-07	1963.7	365	0.85	45625
South Coast AQMD	2021 OFF - ConstMin - Crushing/Proc. Equipment	Aggregate	25	Gasoline	0.001247738	0.001147669	0.00137306	0.052996259	0.000946792	0.088020968	0.000664093	0.000501759	2.35968E-06	2.33615E-06	6668.55	6767.1	23.44	79632.05
South Coast AQMD	2021 OFF - ConstMin - Crushing/Proc. Equipment	Aggregate	100	Gasoline	0.00056338	0.000518197	0.000619965	0.019432401	0.001749309	0.576977123	4.02282E-05	3.03947E-05	5.5744E-06	8.07104E-06	23038.8	3018.55	12.5	289780.8
South Coast AQMD	2021 OFF - ConstMin - Dumpers/Tenders	Aggregate	25	Gasoline	0.010079188	0.009270837	0.011091531	0.366900473	0.007135092	0.647043542	0.004270439	0.003226554	1.8455E-05	1.67763E-05	47888	139809.6	937.5	1216731
South Coast AQMD	2021 OFF - ConstMin - Dumpers/Tenders	Aggregate	25	Diesel	8.4778E-05	0.000100893	0.00012208	0.000416629	0.000771553	0.101183849	2.91654E-05	2.68322E-05	1.28383E-06	8.41094E-07	3343.4	9701.7	14.6	155227.2
South Coast AQMD	2021 OFF - ConstMin - Dumpers/Tenders	Aggregate	100	Gasoline	5.09187E-05	4.6835E-05	5.60329E-05	0.001628474	0.000175907	0.062583149	4.36345E-06	3.29683E-06	6.0464E-07	8.61831E-07	2460.1	967.25	7.69	63838.5
South Coast AQMD	2021 OFF - ConstMin - Excavators	Aggregate	25	Diesel	0.000594224	0.000707176	0.000855683	0.002920562	0.005407234	0.709297132	0.000202043	0.00018588	8.99964E-06	5.9299E-06	23571.7	31536	22.57	725328
South Coast AQMD	2021 OFF - ConstMin - Other Construction Equipment	Aggregate	25	Diesel	0.00191608	0.002280294	0.002759156	0.013529937	0.017308121	2.354788656	0.000670746	0.000617086	3.54171E-05	1.97418E-05	78475	162976.15	236	2213006
South Coast AQMD	2021 OFF - ConstMin - Other Construction Equipment	Aggregate	175	Gasoline	0.000593458	0.000545863	0.000653065	0.050393881	0.00195978	1.545449458	0.000110792	8.37097E-05	1.53524E-05	2.15611E-05	61546.3	11231.05	30.26	1415112
South Coast AQMD	2021 OFF - ConstMin - Pavers	Aggregate	25	Diesel	0.000160924	0.000191513	0.00023173	0.00079034	0.001465625	0.191944519	5.6083E-05	5.15964E-05	2.43541E-06	1.6023E-06	6369.25	7526.3	9.11	180631.2
South Coast AQMD	2021 OFF - ConstMin - Paving Equipment	Aggregate	25	Gasoline	0.179352521	0.164968449	0.197366509	6.537461871	0.13205739	11.86858462	0.075705628	0.057199808	0.000348423	0.000303343	865893.15	1892112.55	10002.12	15510748
South Coast AQMD	2021 OFF - ConstMin - Paving Equipment	Aggregate	25	Diesel	0.000190466	0.000226671	0.000274271	0.000936125	0.001733176	0.227350391	6.47529E-05	5.95726E-05	2.88465E-06	1.89981E-06	7551.85	13165.55	15.86	250145.5
South Coast AQMD	2021 OFF - ConstMin - Paving Equipment	Aggregate	50	Gasoline	0.000914828	0.000841458	0.001006712	0.065781713	0.001497354	0.758321851	5.2278E-05	3.9499E-05	9.21981E-06	1.14672E-05	32733.2	14673	83.78	542901
South Coast AQMD	2021 OFF - ConstMin - Paving Equipment	Aggregate	100	Gasoline	0.000170311	0.000156652	0.000187417	0.007858988	0.000467246	0.344712776	2.40342E-05	1.81592E-05	3.33041E-06	4.73496E-06	13515.95	3774.1	21.59	249090.6
South Coast AQMD	2021 OFF - ConstMin - Plate Compactors	Aggregate	25	Gasoline	0.075590531	0.069528171	0.083182769	2.439679343	0.052098871	4.684123396	0.025579288	0.019326573	0.000142548	0.000117059	334146.55	1069001.05	5515.44	6566657
South Coast AQMD	2021 OFF - ConstMin - Plate Compactors	Aggregate	25	Diesel	0.000562748	0.000669717	0.000810357	0.004250654	0.005074767	0.696151816	0.000198299	0.000182435	1.08327E-05	5.83808E-06	23206.7	117902.3	196.34	943218.4
South Coast AQMD	2021 OFF - ConstMin - Rollers	Aggregate	25	Gasoline	0.03866063	0.035560048	0.042543665	1.594288666	0.02864083	2.667138738	0.019416387	0.014670159	7.185E-05	7.06804E-05	201757.4	269490.45	1082.22	3316875
South Coast AQMD	2021 OFF - ConstMin - Rollers	Aggregate	25	Diesel	0.003436153	0.004089306	0.00494806	0.021622867	0.031120963	4.179456636	0.001190449	0.001095213	5.94063E-05	3.50138E-05	139181.8	363937.85	523.24	4348614
South Coast AQMD	2021 OFF - ConstMin - Rollers	Aggregate	50	Gasoline	0.002084971	0.001917757	0.002294384	0.140578275	0.002859434	0.728811346	5.02436E-05	3.79618E-05	8.86102E-06	1.26947E-05	36237.2	13410.1	21.67	496173.7
South Coast AQMD	2021 OFF - ConstMin - Rollers	Aggregate	100	Gasoline	0.004182971	0.003847497	0.004603105	0.163161883	0.010366592	2.746159686	0.000191469	0.000144665	2.65317E-05	4.00099E-05	114208.5	25236.1	40.55	1892708
South Coast AQMD	2021 OFF - ConstMin - Rough Terrain Forklifts	Aggregate	50	Gasoline	0.000291583	0.000268198	0.00032087	0.018601591	0.000434498	0.12512628	8.62609E-06	6.51749E-06	1.52131E-06	2.05484E-06	5865.55	1784.85	4.34	83887.95
South Coast AQMD	2021 OFF - ConstMin - Rough Terrain Forklifts	Aggregate	100	Gasoline	0.003887625	0.003575838	0.004278094	0.14395174	0.010700754	3.177249102	0.000221525	0.000167375	3.06967E-05	4.5305E-05	129323.15	25374.8	61.28	2156858
South Coast AQMD	2021 OFF - ConstMin - Rough Terrain Forklifts	Aggregate	175	Gasoline	0.000146735	0.000134967	0.000161473	0.00644296	0.000697056	0.181769092	1.30309E-05	9.84557E-06	1.80569E-06	2.5548E-06	7292.7	872.35	2.08	123873.7
South Coast AQMD	2021 OFF - ConstMin - Rubber Tired Loaders	Aggregate	25	Diesel	0.000158721	0.000188891	0.000228558	0.0007801	0.001444306	0.189457655	5.39669E-05	4.96496E-05	2.40386E-06	1.58302E-06	6292.6	8183.3	8.52	204582.5
South Coast AQMD	2021 OFF - ConstMin - Rubber Tired Loaders	Aggregate	50	Gasoline	0.000692101	0.000636594	0.000761614	0.046541804	0.000952256	0.282894058	1.95025E-05	1.47352E-05	3.43948E-06	4.75286E-06	13567.05	5548	10.8	221920
South Coast AQMD	2021 OFF - ConstMin - Rubber Tired Loaders	Aggregate	100	Gasoline	0.004252937	0.003911851	0.004680097	0.166948175	0.010890905	3.343164299	0.000233093	0.000176115	3.22996E-05	4.80119E-05	137050.2	36733.6	71.71	2644819
South Coast AQMD	2021 OFF - ConstMin - Signal Boards	Aggregate	25	Gasoline	0.001931167	0.001776287	0.002125131	0.07941247	0.001538202	0.137829701	0.001001265	0.000756511	3.96196E-06	3.58542E-06	10234.6	17892.3	67.41	139875.3
South Coast AQMD	2021 OFF - ConstMin - Signal Boards	Aggregate	25	Diesel	0.008795354	0.010467198	0.012665309	0.066434695	0.07931499	10.88035773	0.003099265	0.002851324	0.000169308	9.1267E-05	362791.75	1288515.7	1716.5	7731094
South Coast AQMD	2021 OFF - ConstMin - Signal Boards	Aggregate	50	Diesel	0.000197795	0.000235393	0.000284825	0.001745078	0.00159459	0.2264209	7.13567E-05	6.56482E-05	2.92706E-06	1.90073E-06	7555.5	4566.15	8.5	168947.6
South Coast AQMD	2021 OFF - ConstMin - Skid Steer Loaders	Aggregate	25	Gasoline	0.127112324	0.116917915	0.139879358	5.310775588	0.090794185	8.589980416	0.064808905	0.048966728	0.000218007	0.000231457	660693.8	603363.25	1889.76	11419500
South Coast AQMD	2021 OFF - ConstMin - Skid Steer Loaders	Aggregate	25	Diesel	0.015741437	0.018733611	0.022667669	0.076508497	0.142477585	18.45008421	0.005677581	0.005223374	0.000234097	0.00015433	613470.1	977283.85	1170.73	19545677
South Coast AQMD	2021 OFF - ConstMin - Skid Steer Loaders	Aggregate	50	Gasoline	0.00473802	0.004358031	0.005213902	0.370401105	0.007408345	4.014986579	0.00027679	0.00020913	4.88149E-05	6.11759E-05	174626.95	91450.75	294.73	2926424
South Coast AQMD	2021 OFF - ConstMin - Skid Steer Loaders	Aggregate	100	Gasoline	0.002723388	0.002504972	0.002996922	0.142527169	0.006872079	5.937358055	0.000413967	0.000312775	5.73632E-05	8.17896E-05	233468.6	54717.15	176.34	4377372
South Coast AQMD	2021 OFF - ConstMin - Surfacing Equipment	Aggregate	25	Gasoline	0.086632339	0.079684425	0.095333604	3.247310512	0.067201658	5.711164806	0.039986181	0.030211781	0.00016489	0.000148094	422735.7	1154936.65	2699.36	8986928
South Coast AQMD	2021 OFF - ConstMin - Tampers/Rammers	Aggregate	25	Gasoline	0.009135202	0.008402559	0.010052733	0.426290941	0.007708251	0.805344025	0.006076087	0.004590821	3.2111E-05	2.00523E-05	57239.3	266004.7	1460.34	1128952
South Coast AQMD	2021 OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregate	25	Diesel	0.002948841	0.003509364	0.00424633	0.014493295	0.026833409	3.519888834	0.001004837	0.00092445	4.46607E-05	2.9442E-05	117033.6	162136.65	171.93	3729143
South Coast AQMD	2021 OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregate	100	Gasoline	0.001971241	0.001813147	0.00216923	0.132839517	0.0050775	2.342270754	0.000163309	0.000123389	2.26296E-05	3.3917E-05	96816.25	33112.8	37.99	2086106
South Coast AQMD	2021 OFF - ConstMin - Trenchers	Aggregate	25	Gasoline	0.078467722	0.07217461	0.086348941	3.236802325	0.05886326	5.340201068	0.040290262	0.030441531	0.000141785	0.000142505	406781.55	421491.05	970.33	6238992
South Coast AQMD	2021 OFF - ConstMin - Trenchers	Aggregate	25	Diesel	0.001389532	0.001653658	0.002000926	0.007528392	0.012622574	1.670115715	0.000475732	0.000437673	2.2132E-05	1.39781E-05	55563.95	58075.15	93.87	1297345
South Coast AQMD	2021 OFF - ConstMin - Trenchers	Aggregate	50	Gasoline	0.00853119	0.007846989	0.009388055	0.542214678	0.012779167	3.70563604	0.000255463	0.000193017	4.50538E-05	6.08678E-05	173747.3	79069.95	196.53	2372099
South Coast AQMD	2021 OFF - ConstMin - Trenchers	Aggregate	100	Gasoline	0.003230798	0.002971688	0.003555296	0.119204672	0.008951919	2.675126354	0.000186516	0.000140923	2.58455E-05	3.81098E-05	108784.6	26221.6	65.26	1730626
South Coast AQMD	2021 OFF - Industrial - Aerial Lifts	Aggregate	25	Gasoline	0.028803991	0.026493911	0.031697035	1.192252449	0.020531763	1.913891383	0.014439754	0.010910036	4.86026E-05	5.17776E-05	147799.45	170086.35	453.11	3208295
South Coast AQMD	2021 OFF - Industrial - Aerial Lifts	Aggregate	25	Diesel	0.003152022	0.003751167	0.004538912	0.017931697	0.028406915	3.739397969	0.001130231	0.001039813	5.09472E-05	3.12995E-05	124417.55	270928.55	678.47	4735995
South Coast AQMD	2021 OFF - Industrial - Aerial Lifts	Aggregate	25	Nat Gas	0	0	0.002481025	0.66100155	0.018190029	3.889122203	0	0	0	0	259963.95	219974.55	586.08	4149426
South Coast AQMD	2021 OFF - Industrial - Aerial Lifts	Aggregate	50	Gasoline	0.008901841	0.008187913	0.009795933	0.731312412	0.013477364	7.020411552	0.000483981	0.000365674	8.53554E-05	0.000108743	310406.95	195497.65	541.06	6451422
South Coast AQMD	2021 OFF - Industrial - Aerial Lifts	Aggregate	100	Gasoline	0.007017047	0.00645428	0.007721832	0.38848632	0.017744367	14.09343157	0.000982628	0.00074243	0.000136162	0.000195211	557230.9	195497.65	541.06	13098343
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	25	Gasoline	0.000851092	0.000782835	0.000936575	0.052544065	0.000716676	0.083688312	4.20936E-05	3.18041E-05	2.12105E-06	2.2492E-06	6420.35	9354.95	10.37	215163.9
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	25	Nat Gas	0	0	0.000119921	0.018971191	0.000529722	0.098884365	0	0	0	0	6891.2	7033.55	5.6	161771.7
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	50	Gasoline	0.225060959	0.20701107	0.247665857	26.52006463	0.524255534	94.5986645	0.006521547	0.004927391	0.001150147	0.001818103	5189781.7	3251182.75	1804.66	1.33E+08
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	50	Nat Gas	0	0	0.016590545	2.757660746	0.721269155	171.9393938	0	0	0	0	9159131.15	6860784.55	3808.22	2.81E+08
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	100	Gasoline	0.475129098	0.437023744	0.522850589	45.08720461	2.371773436	560.4202161	0.039073839	0.029522456	0.005414441	0.008390662	23951175.9	11409370.75	6333.09	7.99E+08
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	100	Nat Gas	0	0	0.098417367	46.48801404	4.661111119	1030.286729	0	0	0	0	57319005.05	24079228.85	13365.77	1.69E+09
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	175	Gasoline	0.024798779	0.022809917	0.027289544	1.736430128	0.14689138	41.54767911	0.002978526	0.002250442	0.000412733	0.000588036	1678551.05	416972.35	231.45	60877963
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	175	Nat Gas	0	0	0.004515493	2.723662657	0.232008265	78.63835606	0	0	0	0	4302065.2	881179.35	489.13	1.29E+08
South Coast AQMD	2021 OFF - Industrial - Other General Industrial Equipment	Aggregate	25	Gasoline	0.023805914	0.02189668	0.026196956	1.45773843	0.019292459	2.427945635	0.001169326	0.000883491	6.73005E-05	6.38458E-05	182248.15	328237.2	845.8	3467004
South Coast AQMD	2021 OFF - Industrial - Other General Industrial Equipment	Aggregate	25	Diesel	0.003826976	0.004554418	0.005510845	0.021685374	0.035649347	4.72537223	0.00134602	0.001238339	6.31756E-05	3.95434E-05	157187.25	299628.5	210.08	5398752
South Coast AQMD	2021 OFF - Industrial - Other General Industrial Equipment	Aggregate	50	Gasoline	0.006993266	0.006432406	0.007695663	0.670938153	0.015624556	4.7265131	0.000325842	0.000246191	5.74658E-05	7.69856E-05	219755.55	123329.85	172.82	3699896
South Coast AQMD	2021 OFF - Industrial - Other General Industrial Equipment	Aggregate	100	Gasoline	0.002163621	0.001990099	0.002380933	0.157367582	0.012907562	4.044236361	0.000281974	0.000213047	3.9073E-05	5.69729E-05	162629.4	40522.3	56.8	3201262
South Coast AQMD	2021 OFF - Industrial - Other General Industrial Equipment	Aggregate	175	Gasoline	0.000303546	0.000279202	0.000334034	0.029356058	0.002601364	0.838370479	6.01022E-05	4.54106E-05	8.32833E-06	1.17345E-05	33496.05	3920.1	5.51	682097.4
South Coast AQMD	2021 OFF - Industrial - Other Material Handling Equipment	Aggregate	50	Gasoline	0.000101628	9.34775E-05	0.000111836	0.007258866	0.000199761	0.048512859	3.34443E-06	2.5269E-06	5.89828E-07	7.83832E-07	2237.45	930.75	2.36	38160.75
South Coast AQMD	2021 OFF - Industrial - Other Material Handling Equipment	Aggregate	100	Gasoline	0.00285036	0.002621761	0.003136647	0.123154232	0.012165701	2.79558935	0.000194915	0.000147269	2.70093E-05	3.97657E-05	113511.35	41741.4	108.18	2254036
South Coast AQMD	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregate	25	Gasoline	0.018132975	0.01667871	0.019954233	1.171226277	0.014813656	1.915075131	0.000892603	0.000674411	5.04357E-05	5.07662E-05	144912.3	160731.4	594.85	2079580
South Coast AQMD	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregate	25	Diesel	0.000762141	0.000907011	0.001097483	0.004678773	0.007202886	0.96075229	0.00027367	0.000251776	1.32345E-05	8.03998E-06	31959.4	44493.5	68.4	823096.9
South Coast AQMD	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregate	50	Gasoline	0.019384735	0.017830079	0.021331719	1.674768005	0.042387363	15.27753133	0.001053219	0.000795766	0.000185747	0.000238369	680425.7	259905.55	503.25	9096694
South Coast AQMD	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregate	100	Gasoline	0.011314766	0.010407322	0.01245121	0.715496006	0.072194902	24.50465256	0.001708523	0.001290884	0.000236749	0.00034021	971129.95	216981.55	420.2	14754745
South Coast AQMD	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregate	175	Gasoline	8.75811E-05	8.05571E-05	9.63776E-05	0.009556583	0.000856596	0.285270554	2.04509E-05	1.54518E-05	2.83386E-06	3.98053E-06	11362.45	1259.25	2.37	176295
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	25	Gasoline	0.203831037	0.187483788	0.224303623	4.695550705	0.122337884	10.41513566	0.039666922	0.029970563	0.000325319	0.000247082	705296.8	2326703.45	4813.19	14340240
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	25	Diesel	0.000928271	0.001104719	0.00133671	0.004768425	0.008032261	1.014797929	0.000367148	0.000337777	1.34634E-05	8.50277E-06	33799	61670.4	75.63	1231875
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	50	Gasoline	0.011069726	0.010181934	0.012181558	0.737045589	0.015411036	4.469838588	0.000308147	0.000232822	5.43451E-05	7.51877E-05	214623.65	96396.5	199.41	3373878
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	50	Diesel	0.012558437	0.014945578	0.018084149	0.100835955	0.084551913	11.35157709	0.004314864	0.003969675	0.000146748	9.57893E-05	380768	372416.8	457.43	13779422
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	100	Gasoline	0.037106047	0.034130142	0.040832942	1.437363803	0.096042841	28.66255102	0.001998422	0.001509919	0.00027692	0.000411766	1175387.6	312582.35	646.71	21880765
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	175	Gasoline	0.003111066	0.002861558	0.003423538	0.130201453	0.013614073	3.589793347	0.00025735	0.000194442	3.56608E-05	5.04401E-05	143981.55	21027.65	43.54	2817705
South Coast AQMD	2021 OFF - Light Commercial - Gas Compressors	Aggregate	50	Nat Gas	0	0	0.00066364	0.117650117	0.024101942	8.01830469	0	0	0	0	426028	124618.3	14.67	3987786
South Coast AQMD	2021 OFF - Light Commercial - Gas Compressors	Aggregate	100	Nat Gas	0	0	0.003619158	1.881407654	0.142598939	45.05873234	0	0	0	0	2493125.2	257536.7	30.3	22663230
South Coast AQMD	2021 OFF - Light Commercial - Gas Compressors	Aggregate	175	Nat Gas	0	0	0.001009286	0.382781633	0.038158816	11.72668439	0	0	0	0	640279.35	41533.35	4.89	6063869
South Coast AQMD	2021 OFF - Light Commercial - Gas Compressors	Aggregate	300	Nat Gas	0	0	0.000776622	0.440461083	0.03695832	12.08585669	0	0	0	0	663117.4	33229.6	3.92	6978216
South Coast AQMD	2021 OFF - Light Commercial - Gas Compressors	Aggregate	600	Nat Gas	0	0	0.001093742	0.620315953	0.052049624	17.0209156	0	0	0	0	933892.65	29079.55	3.42	9828888
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	25	Gasoline	1.531445336	1.40862342	1.685262174	81.00673579	1.074349688	137.4061403	0.090460768	0.068348136	0.003763834	0.003592325	10254306.35	14525543.65	126422.18	1.56E+08
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	25	Diesel	0.022030711	0.026218366	0.031724223	0.136837348	0.209264855	26.53695447	0.009334911	0.008588118	0.000370386	0.000222292	883624.85	1453035.8	4304.28	20894045
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	50	Gasoline	0.056174184	0.051669015	0.061816263	3.356446478	0.117475325	38.80016752	0.002674849	0.002020997	0.000471739	0.000587101	1675882.9	753754.2	6562.59	24120134
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	50	Diesel	0.024063429	0.028637469	0.034651338	0.217005185	0.217068423	31.41845912	0.009332629	0.008586019	0.000406162	0.000263803	1048634.05	749615.1	2220.56	24737298
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	100	Gasoline	0.013236445	0.012174882	0.0145659	0.477589677	0.072659841	19.21812034	0.001339933	0.001012394	0.000185674	0.00026532	757356.75	145536.45	1267.43	12079525
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	100	Nat Gas	0	0	6.21518E-05	0.03910056	0.004541936	1.24603204	0	0	0	0	67798.75	10833.2	94.33	899155.6
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	175	Gasoline	0.001303552	0.001199007	0.001434479	0.099529319	0.012782801	3.106468719	0.000222701	0.000168263	3.08595E-05	4.33025E-05	123607.25	13731.3	119.7	2004770
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	175	Nat Gas	0	0	6.98437E-05	0.046872037	0.006318141	1.817049056	0	0	0	0	98013.45	8957.1	78.19	1307737
South Coast AQMD	2021 OFF - Light Commercial - Pressure Washers	Aggregate	25	Gasoline	0.162454396	0.149425553	0.178771153	5.913358283	0.083537199	11.57370517	0.015943814	0.012046437	0.000346671	0.000285468	814869.8	1516370.6	13197.57	10498758
South Coast AQMD	2021 OFF - Light Commercial - Pressure Washers	Aggregate	25	Diesel	0.000120118	0.00014295	0.000172969	0.000859826	0.001178122	0.149909021	5.31935E-05	4.8938E-05	2.2233E-06	1.2442E-06	4945.75	20560.45	142.19	290609.3
South Coast AQMD	2021 OFF - Light Commercial - Pressure Washers	Aggregate	50	Gasoline	0.000501554	0.000461329	0.00055193	0.03153421	0.000860501	0.392849554	2.70827E-05	2.04625E-05	4.77633E-06	5.88705E-06	16804.6	6723.3	58.61	194975.7
South Coast AQMD	2021 OFF - Light Commercial - Pressure Washers	Aggregate	50	Diesel	8.29061E-05	9.86652E-05	0.000119385	0.000887762	0.001002515	0.15096599	3.68811E-05	3.39307E-05	1.95161E-06	1.25889E-06	5004.15	7686.9	53.31	292102.2
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	25	Gasoline	0.505269762	0.464747127	0.556018552	17.07676335	0.346570388	31.96893467	0.19883728	0.150232612	0.00097478	0.000807208	2304179.3	6438264.2	29171.88	35724050
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	25	Diesel	0.012249914	0.01457841	0.017639876	0.073327626	0.107594238	13.62323807	0.005039449	0.004636293	0.00019479	0.000114209	453987	976028.25	2424.9	10726733
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	50	Gasoline	0.008621244	0.007929821	0.009487154	0.593288987	0.013738243	5.857779744	0.00040383	0.000305116	7.12199E-05	9.04552E-05	258204.65	115763.4	524.55	3588665
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	50	Diesel	0.015422732	0.018354325	0.022208734	0.133357333	0.128706858	18.38878552	0.005788123	0.005325073	0.000237721	0.000154544	614320.55	391316.5	972.27	14478711
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	100	Gasoline	0.014723295	0.013542487	0.016202088	0.620988179	0.042335161	22.0235217	0.001535533	0.00116018	0.000212778	0.000305564	872233.2	146722.7	664.8	13645211
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	175	Gasoline	0.000485749	0.000446792	0.000534537	0.032987205	0.002136983	0.999836504	7.16776E-05	5.41564E-05	9.93233E-06	1.39594E-05	39847.05	4409.2	20.02	634924.8
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	25	Gasoline	0.492571481	0.453067248	0.542044868	20.52993726	0.357577625	33.32743368	0.251445782	0.189981258	0.000860702	0.000896401	2558781.4	3209404.85	15448.99	50387056
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	25	Diesel	0.010859757	0.012924009	0.015638051	0.060447328	0.094684338	11.97578017	0.004382361	0.004031772	0.000165181	0.000100336	398842.8	1019244.25	1587.12	15506003
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	50	Gasoline	0.020894087	0.019218381	0.022992668	1.238453538	0.034213492	11.75339838	0.000810269	0.000612203	0.0001429	0.000182677	521453.6	216507.05	1042.15	9742817
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	50	Diesel	0.054018065	0.064285962	0.077786014	0.434731416	0.38048699	52.1700552	0.018980511	0.01746207	0.000674429	0.000439711	1747875.5	1468497.2	2286.55	67550871
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	100	Gasoline	0.016659015	0.015322962	0.01833223	0.576134126	0.05187764	18.45074811	0.00128643	0.00097197	0.00017826	0.00025739	734719.45	220974.65	1063.62	15468226
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	175	Gasoline	0.00135792	0.001249015	0.001494308	0.07600554	0.007292427	2.297255832	0.000164689	0.000124432	2.28208E-05	3.20885E-05	91596.75	15213.2	73.3	1977716
South Coast AQMD	2021 OFF - Military - A/C unit	Aggregate	100	Diesel	0.000155357	0.000184888	0.000223715	0.002339822	0.002054383	0.397968552	0.000108668	9.99748E-05	4.66838E-06	3.32949E-06	13234.9	3817.9	12.7	385607.9
South Coast AQMD	2021 OFF - Military - A/C unit	Aggregate	300	Diesel	7.66822E-05	9.12582E-05	0.000110422	0.000613365	0.00108003	0.342154256	3.18803E-05	2.93299E-05	3.84982E-06	2.84191E-06	11296.75	1591.4	5.31	331011.2
South Coast AQMD	2021 OFF - Military - A/C unit	Aggregate	600	Diesel	4.38921E-05	5.22352E-05	6.32046E-05	0.000360372	0.000585566	0.204856439	1.8465E-05	1.69878E-05	2.01073E-06	1.69413E-06	6734.25	620.5	2.07	195457.5
South Coast AQMD	2021 OFF - Military - Aircraft Support	Aggregate	100	Diesel	2.84341E-05	3.3839E-05	4.09452E-05	0.000428244	0.000376002	0.072837847	1.98889E-05	1.82978E-05	8.54425E-07	6.11538E-07	2430.9	1032.95	3.44	70240.6
South Coast AQMD	2021 OFF - Military - Aircraft Support	Aggregate	175	Diesel	6.25031E-05	7.43839E-05	9.00045E-05	0.00109612	0.000798441	0.214228948	3.51061E-05	3.22976E-05	2.41044E-06	1.7887E-06	7110.2	1481.9	4.94	207466
South Coast AQMD	2021 OFF - Military - Cart	Aggregate	100	Diesel	1.45157E-05	1.72749E-05	2.09027E-05	0.00021862	0.00019195	0.037184026	1.01534E-05	9.3411E-06	4.36188E-07	3.1036E-07	1233.7	423.4	1.47	34295.4
South Coast AQMD	2021 OFF - Military - Cart	Aggregate	175	Diesel	5.12302E-06	6.09682E-06	7.37715E-06	8.98427E-05	6.54437E-05	0.017559124	2.87744E-06	2.64725E-06	1.9757E-07	1.43243E-07	569.4	109.5	0.32	16753.5
South Coast AQMD	2021 OFF - Military - Cart	Aggregate	300	Diesel	1.689E-05	2.01005E-05	2.43216E-05	0.000135099	0.000237887	0.075362687	7.02194E-06	6.46018E-06	8.4796E-07	6.23475E-07	2478.35	346.75	1.17	68309.75
South Coast AQMD	2021 OFF - Military - Communications	Aggregate	50	Diesel	4.39663E-06	5.23235E-06	6.33114E-06	4.12248E-05	4.26308E-05	0.006120827	1.80412E-06	1.65979E-06	7.9127E-08	4.4993E-08	178.85	127.75	0.46	5110
South Coast AQMD	2021 OFF - Military - Communications	Aggregate	100	Diesel	7.16827E-06	8.53083E-06	1.03223E-05	0.000107961	9.47903E-05	0.018362482	5.01401E-06	4.61289E-06	2.15401E-07	1.50589E-07	598.6	208.05	0.72	16644
South Coast AQMD	2021 OFF - Military - Compressor (Military)	Aggregate	50	Diesel	5.38587E-06	6.40963E-06	7.75565E-06	5.05004E-05	5.22228E-05	0.007498013	2.21005E-06	2.03325E-06	9.69306E-08	5.87664E-08	233.6	127.75	0.46	6259.75
South Coast AQMD	2021 OFF - Military - Compressor (Military)	Aggregate	100	Diesel	0.000160106	0.00019054	0.000230553	0.002411346	0.002117181	0.410133674	0.00011199	0.000103031	4.81108E-06	3.43049E-06	13636.4	5613.7	18.63	398572.7
South Coast AQMD	2021 OFF - Military - Compressor (Military)	Aggregate	175	Diesel	7.45573E-06	8.87293E-06	1.07363E-05	0.000130751	9.52426E-05	0.025554454	4.18765E-06	3.85264E-06	2.87531E-07	2.11192E-07	839.5	127.75	0.46	21334.25
South Coast AQMD	2021 OFF - Military - Compressor (Military)	Aggregate	300	Diesel	1.52953E-05	1.82027E-05	2.20252E-05	0.000122344	0.000215426	0.068247222	6.35895E-06	5.85024E-06	7.67898E-07	5.64709E-07	2244.75	284.7	0.92	63488.1
South Coast AQMD	2021 OFF - Military - Compressor (Military)	Aggregate	600	Diesel	8.56039E-05	0.000101876	0.00012327	0.000702844	0.001142045	0.399537	3.60127E-05	3.31317E-05	3.92159E-06	3.31571E-06	13180.15	1032.95	3.44	385290.4
South Coast AQMD	2021 OFF - Military - Crane	Aggregate	100	Diesel	1.08161E-05	1.2872E-05	1.55751E-05	0.000360636	0.000198497	0.06426869	3.38519E-06	3.11438E-06	7.53905E-07	5.32571E-07	2117	591.3	1.94	62086.5
South Coast AQMD	2021 OFF - Military - Crane	Aggregate	175	Diesel	2.21261E-06	2.63319E-06	3.18616E-06	8.03379E-05	2.47576E-05	0.016181937	6.24568E-07	5.74603E-07	1.82075E-07	1.34979E-07	536.55	94.9	0.34	13380.9
South Coast AQMD	2021 OFF - Military - Crane	Aggregate	300	Diesel	1.98266E-06	2.35953E-06	2.85503E-06	2.76965E-05	1.65317E-05	0.016373212	4.4804E-07	4.12197E-07	1.84227E-07	1.34979E-07	536.55	65.7	0.23	14059.8
South Coast AQMD	2021 OFF - Military - Deicer	Aggregate	100	Diesel	6.57091E-06	7.81993E-06	9.46211E-06	9.89639E-05	8.68911E-05	0.016832275	4.59618E-06	4.22848E-06	1.97451E-07	1.3957E-07	554.8	127.75	0.46	14052.5
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	50	Diesel	2.81934E-05	3.35524E-05	4.05985E-05	0.000264354	0.00027337	0.039249806	1.15689E-05	1.06434E-05	5.07402E-07	3.28725E-07	1306.7	985.5	3.32	37449
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	100	Diesel	0.000832953	0.000991283	0.001199452	0.012545027	0.011014635	2.133720355	0.000582628	0.000536018	2.50296E-05	1.78485E-05	70948.7	24955.05	83.1	2071269
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	175	Diesel	0.000887622	0.001056344	0.001278176	0.015566277	0.011338862	3.042319048	0.00049855	0.000458666	3.42313E-05	2.54027E-05	100977.25	20104.2	66.86	2955317
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	300	Diesel	0.000273403	0.000325373	0.000393701	0.002186896	0.003850748	1.21991911	0.000113666	0.000104573	1.37262E-05	1.01308E-05	40270.45	5310.75	17.65	1184297
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	600	Diesel	0.000165438	0.000196884	0.00023823	0.00135831	0.002207109	0.772142325	6.95979E-05	6.403E-05	7.57883E-06	6.40829E-06	25473.35	2157.15	7.15	750688.2
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	750	Diesel	8.86068E-06	1.05449E-05	1.27594E-05	7.18633E-05	0.000119128	0.040851246	3.72017E-06	3.42256E-06	4.10748E-07	3.37907E-07	1343.2	25.55	0.21	13669.25
South Coast AQMD	2021 OFF - Military - Hydraulic unit	Aggregate	100	Diesel	9.50542E-05	0.000113122	0.000136878	0.001431603	0.001256959	0.243494169	6.64879E-05	6.11689E-05	2.85631E-06	2.0302E-06	8070.15	2478.35	8.26	235443.3
South Coast AQMD	2021 OFF - Military - Lift (Military)	Aggregate	100	Diesel	2.83744E-06	3.37679E-06	4.08591E-06	4.27344E-05	3.75212E-05	0.007268482	1.98471E-06	1.82594E-06	8.5263E-08	5.60117E-08	222.65	25.55	0.21	2427.25
South Coast AQMD	2021 OFF - Military - Light	Aggregate	50	Diesel	6.86973E-06	8.17555E-06	9.89241E-06	6.44138E-05	6.66107E-05	0.009563793	2.81894E-06	2.59343E-06	1.23636E-07	7.62127E-08	302.95	171.55	0.58	8577.5
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	50	Diesel	1.37395E-06	1.63511E-06	1.97848E-06	1.28828E-05	1.33221E-05	0.001912759	5.63789E-07	5.18686E-07	2.47272E-08	0	0	0	0	0
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	100	Diesel	1.88764E-05	2.24645E-05	2.71821E-05	0.000284296	0.000249614	0.048354536	1.32036E-05	1.21473E-05	5.67224E-07	4.02183E-07	1598.7	587.65	1.92	46424.35
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	175	Diesel	2.64299E-05	3.14538E-05	3.8059E-05	0.000463502	0.000337627	0.090588241	1.48449E-05	1.36573E-05	1.01927E-06	7.55699E-07	3003.95	587.65	1.92	86972.2
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	300	Diesel	1.12143E-05	1.33459E-05	1.61485E-05	8.97005E-05	0.000157947	0.050037765	4.66228E-06	4.2893E-06	5.63011E-07	4.15038E-07	1649.8	208.05	0.72	45354.9
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	600	Diesel	4.42609E-06	5.26742E-06	6.37357E-06	3.63401E-05	5.90487E-05	0.020657792	1.86201E-06	1.71305E-06	2.02763E-07	1.68953E-07	671.6	25.55	0.21	6898.5
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	750	Diesel	5.19429E-06	6.18163E-06	7.47978E-06	4.21275E-05	6.98349E-05	0.023947737	2.18083E-06	2.00636E-06	2.40788E-07	1.99255E-07	792.05	0	0	0
South Coast AQMD	2021 OFF - Military - Pressure Washers	Aggregate	175	Diesel	5.08954E-06	6.05697E-06	7.32894E-06	8.92555E-05	6.50159E-05	0.017444358	2.85864E-06	2.62995E-06	1.96279E-07	1.42325E-07	565.75	109.5	0.32	16644
South Coast AQMD	2021 OFF - Military - Pump (Military)	Aggregate	50	Diesel	6.21573E-05	7.39723E-05	8.95065E-05	0.000582816	0.000602694	0.086533197	2.55058E-05	2.34653E-05	1.11866E-06	7.29989E-07	2901.75	2157.15	7.15	84128.85
South Coast AQMD	2021 OFF - Military - Pump (Military)	Aggregate	100	Diesel	6.72025E-05	7.99766E-05	9.67716E-05	0.001012131	0.000888659	0.172148265	4.70064E-05	4.32458E-05	2.01939E-06	1.44161E-06	5730.5	1671.7	5.57	167170
South Coast AQMD	2021 OFF - Military - Start Cart	Aggregate	100	Diesel	1.49339E-06	1.77726E-06	2.15048E-06	2.24918E-05	1.9748E-05	0.003825517	1.04459E-06	9.61019E-07	4.48753E-08	2.93832E-08	116.8	0	0	0
South Coast AQMD	2021 OFF - Military - Start Cart	Aggregate	600	Diesel	2.3196E-06	2.76052E-06	3.34023E-06	1.90449E-05	3.09459E-05	0.010826214	9.75832E-07	8.97766E-07	1.06263E-07	8.26403E-08	328.5	0	0	0
South Coast AQMD	2021 OFF - Military - Test Stand	Aggregate	100	Diesel	4.53393E-05	5.39575E-05	6.52886E-05	0.000682851	0.000599549	0.116142698	3.17136E-05	2.91765E-05	1.36241E-06	9.68728E-07	3850.75	1219.1	4.06	112157.2
South Coast AQMD	2021 OFF - Military - Test Stand	Aggregate	175	Diesel	3.1698E-06	3.77233E-06	4.56451E-06	5.5589E-05	4.04924E-05	0.010864468	1.78038E-06	1.63795E-06	1.22244E-07	8.44767E-08	335.8	25.55	0.21	3628.1
South Coast AQMD	2021 OFF - Military - Test Stand	Aggregate	300	Diesel	5.23589E-05	6.23115E-05	7.53969E-05	0.000418808	0.000737449	0.233624336	2.1768E-05	2.00266E-05	2.62867E-06	1.94113E-06	7716.1	1149.75	3.83	226500.8
South Coast AQMD	2021 OFF - Military - Test Stand	Aggregate	600	Diesel	3.37367E-05	4.01494E-05	4.85808E-05	0.000276992	0.000450082	0.157458281	1.41927E-05	1.30573E-05	1.5455E-06	1.30847E-06	5201.25	423.4	1.47	145226.2
South Coast AQMD	2021 OFF - Military - Welder	Aggregate	50	Diesel	2.0197E-05	2.40361E-05	2.90837E-05	0.000189376	0.000195835	0.02811755	8.28769E-06	7.62468E-06	3.6349E-07	2.35984E-07	938.05	773.8	2.58	27083
South Coast AQMD	2021 OFF - Military - Welder	Aggregate	100	Diesel	5.37023E-05	6.39102E-05	7.73313E-05	0.000808805	0.000710137	0.13756559	3.75633E-05	3.45582E-05	1.61371E-06	1.14962E-06	4569.8	2157.15	7.15	133743.3
South Coast AQMD	2021 OFF - Oil Drilling - Compressors (Workover)	Aggregate	25	Diesel	7.36981E-06	8.77068E-06	1.06125E-05	3.62451E-05	6.65611E-05	0.008412261	2.93065E-06	2.6962E-06	1.06736E-07	5.693E-08	226.3	401.5	0.48	9636
South Coast AQMD	2021 OFF - Oil Drilling - Generator (Drilling)	Aggregate	50	Diesel	6.56245E-06	7.80986E-06	9.44993E-06	5.33835E-05	4.24937E-05	0.005454204	2.20288E-06	2.02665E-06	7.05093E-08	4.40748E-08	175.2	175.2	0	5781.6
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	25	Diesel	1.85324E-06	2.24242E-06	2.66867E-06	3.45689E-05	2.52464E-05	0.004860521	1.15173E-07	1.05959E-07	4.48823E-08	3.96709E-08	157.6942657	218.1910921	0.136882743	5454.777
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	50	Diesel	0.000219443	0.000265525	0.000315997	0.000792581	0.000559981	0.047193038	7.36489E-05	6.7757E-05	4.2974E-07	3.85183E-07	1531.126155	1255.6254	1.095061943	52966.5
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	75	Diesel	1.54668E-05	1.87148E-05	2.22721E-05	0.000204769	0.000188406	0.028152805	1.13293E-05	1.04229E-05	2.59823E-07	2.29779E-07	913.3867633	501.9490181	0.547530971	35138.48
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	100	Diesel	0.000144191	0.000174471	0.000207634	0.0012193	0.001574509	0.158387566	0.000117964	0.000108527	1.46005E-06	1.29274E-06	5138.710153	2203.949043	1.642592914	196344.7
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	175	Diesel	0.000662155	0.000801208	0.000953504	0.007482617	0.006370657	1.136733962	0.000393988	0.000362469	1.04898E-05	9.27787E-06	36880.08152	9789.853769	8.212964571	1412694
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	300	Diesel	0.000552789	0.000668874	0.000796016	0.003074993	0.007107799	1.329551939	0.000216294	0.00019899	1.22758E-05	1.08516E-05	43135.84841	7395.227066	5.885957943	1654664
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	600	Diesel	0.00096629	0.001169211	0.001391457	0.005345926	0.013520838	2.48686079	0.000427005	0.000392845	2.29633E-05	2.02974E-05	80683.45953	7441.904081	5.338426971	3097389
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	750	Diesel	0.000213496	0.00025833	0.000307434	0.001070735	0.002096334	0.502278708	8.74019E-05	8.04097E-05	4.63741E-06	4.09953E-06	16295.87953	979.8066734	0.684413714	624642.5
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	9999	Diesel	0.000177503	0.000214779	0.000255605	0.000864062	0.003668007	0.420657844	9.25475E-05	8.51437E-05	3.88387E-06	3.43335E-06	13647.78047	682.4973559	0.410648229	524892.3
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	75	Diesel	1.45226E-06	1.75723E-06	2.09125E-06	1.3245E-05	1.88909E-05	0.001689459	1.39349E-06	1.28201E-06	1.55763E-08	1.37891E-08	54.81262278	28.49150685	0.142457534	2108.372
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	175	Diesel	2.16247E-05	2.61659E-05	3.11395E-05	0.0002622	0.000216109	0.038924744	1.55995E-05	1.43516E-05	3.5923E-07	3.17699E-07	1262.870464	286.1971863	0.284915068	48578.73
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	300	Diesel	0.000247278	0.000299206	0.00035608	0.001448636	0.002379766	0.555459927	8.69255E-05	7.99715E-05	5.12808E-06	4.53359E-06	18021.28561	3148.881337	5.69830137	684708.5
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	600	Diesel	0.011029942	0.01334623	0.015883117	0.069510518	0.114167335	33.77519094	0.003719706	0.00342213	0.000311937	0.000275669	1095798.873	107276.2216	76.78461096	42181595
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	750	Diesel	9.11858E-05	0.000110335	0.000131308	0.00054405	0.000762149	0.270425478	3.89762E-05	3.58581E-05	2.49748E-06	2.20718E-06	8773.656798	494.897474	0.284915068	337463.4
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	50	Diesel	4.47338E-05	5.41279E-05	6.44167E-05	0.000958663	0.000996847	0.153248923	3.24298E-05	2.98355E-05	1.41552E-06	1.2508E-06	4971.992531	6868.331723	17.25598583	292090
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	75	Diesel	0.000632767	0.000765648	0.000911184	0.010886144	0.010332726	1.653055139	0.000435007	0.000400206	1.52643E-05	1.3492E-05	53631.55347	52657.20988	132.2958913	3502682
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	100	Diesel	0.001302988	0.001576616	0.001876303	0.03548667	0.020575985	5.309106982	0.001439934	0.001324739	4.90462E-05	4.33322E-05	172248.1291	132329.8579	332.4653269	11249543
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	175	Diesel	0.001858222	0.002248449	0.00267584	0.061615544	0.030351329	11.13724114	0.001123738	0.001033839	0.000102914	9.09007E-05	361335.5231	171250.4043	430.2492466	23598859
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	300	Diesel	0.00121843	0.001474301	0.00175454	0.012708024	0.016702139	6.679673717	0.000602232	0.000554054	6.17203E-05	5.45186E-05	216714.6574	49909.87719	125.393497	14153656
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	600	Diesel	0.001856828	0.002246762	0.002673833	0.017491226	0.025160403	9.141261371	0.000956324	0.000879818	8.44598E-05	7.46097E-05	296578.1579	39836.32399	100.0847178	19369549
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	750	Diesel	0.000699023	0.000845818	0.001006593	0.005697019	0.012422396	2.993064234	0.000404297	0.000371953	2.76514E-05	2.4429E-05	97106.67282	9157.775631	23.0079811	6342047
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	9999	Diesel	3.01043E-05	3.64262E-05	4.33501E-05	0.000375538	0.000606982	0.194663483	1.51117E-05	1.39028E-05	1.79886E-06	1.58882E-06	6315.642337	457.8887815	1.150399055	412475.2
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	50	Diesel	0.00027876	0.000337299	0.000401414	0.003539627	0.002684181	0.360161406	0.000118664	0.000109171	3.32151E-06	2.93959E-06	11685.04018	13748.71963	10.3535915	686461.9
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	75	Diesel	0.0070311	0.008507632	0.010124785	0.101711568	0.079429922	13.78113077	0.003096729	0.002848991	0.000127202	0.00011248	447113.6105	436903.7571	329.0141298	29201035
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	100	Diesel	0.008782023	0.010626247	0.012646113	0.161933245	0.104424805	21.9679486	0.008216337	0.00755903	0.000202841	0.000179299	712725.8989	476622.2805	358.9245052	46548200
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	175	Diesel	0.01719479	0.020805696	0.024760498	0.30119033	0.182909664	47.62717711	0.009298778	0.008554876	0.000439821	0.000388727	1545211.309	711878.1497	536.0859597	1.01E+08
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	300	Diesel	0.019646444	0.023772197	0.028290879	0.118904859	0.174999799	52.09099781	0.00747574	0.00687768	0.000481018	0.00042516	1690035.056	439959.0281	331.3149279	1.1E+08
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	600	Diesel	0.03426795	0.041464219	0.049345848	0.219103299	0.30883466	107.1347175	0.012886726	0.011855788	0.000989486	0.000874419	3475867.921	559114.5983	421.0460542	2.27E+08
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	750	Diesel	0.010674954	0.012916694	0.015371933	0.057069133	0.10185832	26.77914834	0.004678302	0.004304038	0.000247266	0.000218568	868819.9759	80964.68226	60.97114992	56742720
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	9999	Diesel	0.069331894	0.083891591	0.099837927	0.37926702	1.1013629	175.08961	0.034466874	0.031709524	0.00161671	0.001429058	5680589.569	290250.7477	218.5758205	3.71E+08
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	50	Diesel	6.35478E-05	7.68929E-05	9.15089E-05	0.000813921	0.000862892	0.130940178	3.39529E-05	3.12367E-05	1.2087E-06	1.06872E-06	4248.209874	5350.170087	17.25598583	249569.9
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	75	Diesel	0.000876541	0.001060615	0.001262219	0.021862954	0.018622929	3.531343374	0.00052387	0.00048196	3.26227E-05	2.88223E-05	114570.5467	103436.6217	333.615726	7482614
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	100	Diesel	0.001848646	0.002236862	0.00266205	0.050413514	0.037060036	7.947638436	0.002300266	0.002116245	7.34244E-05	6.48676E-05	257852.3763	185472.563	598.2075087	16840365
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	175	Diesel	0.005109358	0.006182323	0.007357475	0.141653166	0.093468462	25.70626845	0.003634811	0.003344026	0.000237514	0.000209811	834011.5696	386995.6363	1248.182975	54469379
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	300	Diesel	0.001823798	0.002206795	0.002626269	0.017058604	0.026815171	8.62700063	0.000962396	0.000885405	7.97062E-05	7.04124E-05	279893.5345	75972.41524	245.0349987	18279875
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	600	Diesel	0.002506544	0.003032918	0.003609423	0.021416044	0.042760103	11.34550733	0.001349891	0.001241899	0.00010482	9.26005E-05	368092.4904	53501.70087	172.5598583	24040158
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	750	Diesel	0.001043809	0.001263009	0.001503085	0.00932404	0.018424145	4.969940868	0.000656637	0.000604106	4.59183E-05	4.0564E-05	161244.258	14980.47624	48.31676032	10530879
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	9999	Diesel	0.023507346	0.028443889	0.033850579	0.194401479	0.406355759	43.84998205	0.012872839	0.011843011	0.00040471	0.000357898	1422664.375	37807.86862	121.9422998	92914353
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	50	Diesel	9.77361E-06	1.18261E-05	1.4074E-05	0.000166865	0.000154923	0.026519032	5.60122E-06	5.15312E-06	2.44888E-07	2.16445E-07	860.3808018	1072.32153	3.451197165	50544.86
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	75	Diesel	0.000575374	0.000696203	0.000828539	0.012575871	0.011181167	1.99738579	0.000403804	0.000371499	1.84496E-05	1.63024E-05	64802.98224	58977.68413	189.8158441	4232289
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	100	Diesel	0.000966664	0.001169663	0.001391996	0.024267681	0.01875788	3.829736343	0.001108436	0.001019761	3.53788E-05	3.12578E-05	124251.578	86858.0439	279.5469704	8114883
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	175	Diesel	0.001350298	0.00163386	0.001944429	0.036884966	0.024907988	6.68657759	0.000989973	0.000910776	6.17802E-05	5.45749E-05	216938.646	100440.7833	323.2621345	14168285
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	300	Diesel	0.000874236	0.001057826	0.0012589	0.00935125	0.013263595	4.931797134	0.000447033	0.00041127	4.55707E-05	4.02527E-05	160006.7266	42892.86118	138.0478866	10450055
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	600	Diesel	0.001647731	0.001993755	0.002372733	0.01714302	0.027839144	9.328554974	0.001044372	0.000960823	8.61977E-05	7.61384E-05	302654.6926	47897.02832	154.1534734	19766408
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	750	Diesel	0.000825463	0.000998811	0.001188667	0.008677109	0.016224633	4.730538958	0.000670944	0.000617268	4.37114E-05	3.861E-05	153477.1267	14297.62039	46.01596221	10023607
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	9999	Diesel	0.000945377	0.001143906	0.001361343	0.00511222	0.02147954	2.698697203	0.00056508	0.000519874	2.49224E-05	2.20264E-05	87556.25865	4289.286118	13.80478866	5718308
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	50	Diesel	3.73247E-05	4.51629E-05	5.37476E-05	0.000860576	0.0006773	0.145417339	1.01788E-05	9.36453E-06	1.34334E-06	1.18688E-06	4717.905411	5400.077314	10.3535915	277163.1
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	75	Diesel	0.000158104	0.000191306	0.00022767	0.002800042	0.002359694	0.421480593	7.59263E-05	6.98522E-05	3.89205E-06	3.44007E-06	13674.47366	13800.19758	26.45917827	893081.3
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	100	Diesel	9.43737E-05	0.000114192	0.000135898	0.002650862	0.00150009	0.391819749	0.000108361	9.96922E-05	3.61974E-06	3.19798E-06	12712.16025	9600.137448	18.40638488	830232.5
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	175	Diesel	0.001491572	0.001804802	0.002147864	0.050439684	0.024985349	9.165200792	0.000753188	0.000692933	8.46921E-05	7.48051E-05	297354.846	137401.9672	263.4413836	19420275
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	300	Diesel	0.000870277	0.001053036	0.0012532	0.011195285	0.007155009	5.85564382	0.000281387	0.000258876	5.41122E-05	4.7793E-05	189979.9149	42600.60992	81.67833292	12407607
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	600	Diesel	0.013872777	0.01678606	0.019976799	0.157029142	0.152957897	82.42481596	0.006205961	0.005709484	0.000761642	0.00067274	2674182.379	310804.4499	595.9067106	1.75E+08
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	750	Diesel	0.001462673	0.001769834	0.002106249	0.016502204	0.012818004	8.453340536	0.000673787	0.000619884	7.81114E-05	6.8995E-05	274259.324	27600.39516	52.91835654	17911904
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	9999	Diesel	0.001205356	0.001458481	0.001735712	0.011743537	0.028593792	6.211277339	0.000658379	0.000605709	5.73902E-05	5.06956E-05	201518.0528	12000.17181	23.0079811	13161164
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	50	Diesel	3.19837E-05	3.87003E-05	4.60566E-05	0.000461987	0.000369357	0.044958924	1.92395E-05	1.77004E-05	4.14708E-07	3.66949E-07	1458.642784	1636.160003	1.150399055	85691
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	75	Diesel	0.007450887	0.009015573	0.010729277	0.110983851	0.09013894	15.32147466	0.003327804	0.003061579	0.000141431	0.000125052	497088.3717	477758.7208	335.9165241	32464892
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	100	Diesel	0.013978848	0.016914406	0.020129541	0.262417782	0.175346156	35.87924911	0.012648399	0.011636527	0.000331302	0.000292842	1164062.723	777176.0013	546.4395512	76025054
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	175	Diesel	0.020501848	0.024807236	0.029522661	0.432935699	0.215997984	69.37409726	0.00897641	0.008258297	0.000640783	0.000566222	2250766.184	976787.5216	686.7882359	1.47E+08
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	300	Diesel	0.04815167	0.05826352	0.069338405	0.31043478	0.422907455	141.731931	0.017159769	0.015786987	0.001308937	0.001156797	4598336.411	1160037.442	815.6329301	3E+08
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	600	Diesel	0.063865358	0.077277083	0.091966116	0.447526808	0.518581123	218.5730532	0.022734286	0.020915543	0.0020189	0.001783964	7091361.997	1079865.602	759.2633764	4.63E+08
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	750	Diesel	0.014517854	0.017566604	0.02090571	0.067294003	0.177597475	31.6685329	0.006698874	0.006162964	0.000292356	0.000258474	1027450.673	96533.44016	67.87354425	67102907
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	9999	Diesel	0.129230914	0.156369406	0.186092516	0.817998564	2.183836922	401.7764139	0.063488129	0.058409079	0.003710745	0.003279245	13035193.27	654464.0011	460.1596221	8.51E+08
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	50	Diesel	9.17481E-05	0.000111015	0.000132117	0.001511248	0.001202579	0.182753005	4.44849E-05	4.09261E-05	1.68689E-06	1.49161E-06	5929.219973	8490.392728	6.902394331	348324.3
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	75	Diesel	0.002848195	0.003446316	0.004101401	0.056377294	0.043001676	8.471934106	0.000788365	0.000725296	7.82418E-05	6.91468E-05	274862.5719	239146.0619	194.4174403	17951302
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	100	Diesel	0.001270672	0.001537513	0.001829768	0.033660635	0.014497035	4.495840187	0.001196587	0.00110086	4.15282E-05	3.66944E-05	145862.5836	103299.7782	83.97913103	9526300
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	175	Diesel	0.005841701	0.007068458	0.008412049	0.147030286	0.062146439	24.64282839	0.002368167	0.002178714	0.00022766	0.000201131	799509.428	376407.411	306.0061487	52216041
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	300	Diesel	0.005989077	0.007246783	0.008624271	0.036912796	0.0532638	16.37865289	0.002103619	0.00193533	0.000151249	0.00013368	531387.3552	138676.4146	112.7391074	34704962
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	600	Diesel	0.004062838	0.004916034	0.005850487	0.026370139	0.036321076	12.84255951	0.001485676	0.001366822	0.000118614	0.000104819	416662.6998	65093.01092	52.91835654	27212283
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	750	Diesel	0.002340255	0.002831709	0.003369967	0.018472295	0.021426018	9.220424693	0.001135045	0.001044242	8.51772E-05	7.52559E-05	299146.5247	28301.30909	23.0079811	19537290
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	9999	Diesel	0.002948967	0.00356825	0.004246513	0.017674926	0.047341321	8.597148886	0.001382352	0.001271764	7.93964E-05	7.01688E-05	278925.0276	14150.65455	11.50399055	18216622
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	50	Diesel	3.32624E-05	4.02475E-05	4.78978E-05	0.000327622	0.000275925	0.030334059	1.97228E-05	1.8145E-05	2.79456E-07	2.47583E-07	984.1551263	1103.92707	1.150399055	57816.24
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	75	Diesel	0.00119972	0.001451661	0.001727596	0.025521728	0.02127224	3.923695618	0.00083923	0.000772092	3.62405E-05	3.20247E-05	127299.9832	110392.707	115.0399055	8313975
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	100	Diesel	0.002306183	0.002790481	0.003320903	0.043800653	0.030773298	6.021972343	0.002196639	0.002020908	5.56069E-05	4.91505E-05	195376.2607	145718.3732	151.8526753	12760043
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	175	Diesel	0.003102584	0.003754127	0.004467721	0.063746194	0.034094291	10.19178573	0.001564285	0.001439142	9.4135E-05	8.3184E-05	330661.2636	143510.5191	149.5518772	21595520
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	300	Diesel	0.003745029	0.004531486	0.005392842	0.032070463	0.03116075	15.38427026	0.001210701	0.001113845	0.000142123	0.000125564	499125.7059	117016.2694	121.9422998	32597950
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	600	Diesel	0.004452236	0.005387205	0.006411219	0.042296388	0.040302723	21.82207794	0.001762054	0.001621089	0.000201622	0.000178109	707993.286	117016.2694	121.9422998	46239113
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	750	Diesel	0.000884942	0.00107078	0.001274317	0.004590395	0.010285151	2.216697024	0.000438343	0.000403276	2.04679E-05	1.80924E-05	71918.29368	6623.562418	6.902394331	4696991
South Coast AQMD	2021 TRU - Instate Genset TRU	Aggregate	50	Diesel	0.010853331	0.01313253	0.015628796	0.212179262	0.160348956	4.438707227	0.000703095	0.000646848	4.09877E-05	3.64711E-05	2817.530558	1697363.593	2174.098448	53466953
South Coast AQMD	2021 TRU - Instate Trailer TRU	Aggregate	50	Diesel	0.213356529	0.2581614	0.307233402	3.234722856	2.204890996	52.15724544	0.038551473	0.035467355	0.000479053	0.000428556	33107.53003	13256252.7	10005.60273	4.51E+08
South Coast AQMD	2021 TRU - Instate Truck TRU	Aggregate	25	Diesel	0.030226422	0.03657397	0.043526048	0.295375765	0.35494978	7.085852538	0.014558134	0.013393484	6.50448E-05	5.82217E-05	4497.842509	3567203.179	2621.016296	50297565
South Coast AQMD	2021 TRU - Instate Van TRU	Aggregate	25	Diesel	0.000699763	0.000846713	0.001007658	0.006838156	0.008217336	0.164042447	0.000337031	0.000310069	1.50583E-06	1.34787E-06	104.1282027	129380.4262	95.06276721	1164424

South Coast AQMD	2021	TRU - Out-of-State Genset TRU	Aggregate	50	Diesel	0.006788761	0.0082144	0.009775815	0.133218666	0.100941064	2.796950259	0.000441257	0.000405957	2.5829E-05	2.29815E-05	1775.402706	1069555.007	8650.283522	33690983
South Coast AQMD	2021	TRU - Out-of-State Trailer TRU	Aggregate	50	Diesel	0.112759143	0.136438563	0.162373166	1.868500531	1.276456411	32.3719358	0.011108447	0.010219771	0.000297919	0.000265988	20548.53218	8227630.843	39212.10639	2.8E+08
South Coast AQMD	2021	TRU - Railcar TRU	Aggregate	50	Diesel	0.011672024	0.014123149	0.016807714	0.193413875	0.132129682	3.350912378	0.001149867	0.001057878	3.08385E-05	2.75331E-05	2127.037792	851665.7826	2641.397459	28956637

EMFAC Fuel Usage: Year 2021

Vehicle type	GAS			DSL			NG			Electricity
	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day
All other buses	0	0	0.00	196,127	19,558	10.03	0	0	0.00	0
LDA	251,960,829	8,387,380	30.04	2,235,698	47,113	47.45	0	0	0.00	4,288,812
LDT1	26,787,165	1,037,925	25.81	9,769	438	22.31	0	0	0.00	150,723
LDT2	84,313,979	3,539,718	23.82	562,270	16,217	34.67	0	0	0.00	567,119
LHD1	6,390,714	613,123	10.42	4,621,741	217,539	21.25	0	0	0.00	0
LHD2	1,046,372	115,282	9.08	1,781,626	92,764	19.21	0	0	0.00	0
MCY	2,034,868	55,847	36.44	0	0	0.00	0	0	0.00	0
MDV	56,209,460	2,900,982	19.38	1,257,908	47,290	26.60	0	0	0.00	256,086
MH	336,910	66,317	5.08	120,326	11,502	10.46	0	0	0.00	0
Motor coach	0	0	0.00	121,777	19,096	6.38	0	0	0.00	0
OBUS	256,431	51,528	4.98	0	0	0.00	0	0	0.00	0
PTO	0	0	0.00	184,277	37,779	4.88	0	0	0.00	0
SBUS	102,530	11,326	9.05	208,178	27,677	7.52	0	0	0.00	0
T6	1,374,105	274,065	5.01	7,755,176	747,906	10.37	0	0	0.00	0
T7	7,779	1,923	4.05	12,913,822	1,957,431	6.60	192,520	87,659	2.20	0
UBUS	88,729	18,456	4.81	1,478	247	5.99	590,314	148,499	3.98	1,343
Total	**430,909,871**	**17,073,873**	**25.24**	**31,970,173**	**3,242,556**	**9.86**	**782,834**	**236,158**	**3.31**	**5,264,083**

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
South Coast AQMI	2021	All Other Buses	Aggregate	Aggregate	DSL	3313.620284	196127.2167	27834.41038	19.55784389
South Coast AQMI	2021	LDA	Aggregate	Aggregate	GAS	6444755.127	251960829.1	30445138.88	8387.380278
South Coast AQMI	2021	LDA	Aggregate	Aggregate	DSL	55086.24147	2235697.578	261421.0655	47.11272746
South Coast AQMI	2021	LDA	Aggregate	Aggregate	ELEC	107407.0659	4288811.557	537483.7872	0
South Coast AQMI	2021	LDT1	Aggregate	Aggregate	GAS	715053.1646	26787165.5	3291669.777	1037.925125
South Coast AQMI	2021	LDT1	Aggregate	Aggregate	DSL	416.2373741	9768.779686	1451.630325	0.437770233
South Coast AQMI	2021	LDT1	Aggregate	Aggregate	ELEC	3765.99891	150723.395	18801.15656	0
South Coast AQMI	2021	LDT2	Aggregate	Aggregate	GAS	2207488.781	84313978.67	10346294.88	3539.718304
South Coast AQMI	2021	LDT2	Aggregate	Aggregate	DSL	12809.41089	562270.3473	63393.99266	16.21724475
South Coast AQMI	2021	LDT2	Aggregate	Aggregate	ELEC	17082.5036	567118.9552	86612.02796	0
South Coast AQMI	2021	LHD1	Aggregate	Aggregate	GAS	176982.3964	6390713.726	2636774.003	613.1229263
South Coast AQMI	2021	LHD1	Aggregate	Aggregate	DSL	113082.0724	4621741.237	1422430.214	217.5386805
South Coast AQMI	2021	LHD2	Aggregate	Aggregate	GAS	29883.23489	1046372.376	445215.6738	115.2817475
South Coast AQMI	2021	LHD2	Aggregate	Aggregate	DSL	44616.36938	1781625.741	561217.7994	92.76392215
South Coast AQMI	2021	MCY	Aggregate	Aggregate	GAS	286160.563	2034867.698	572321.1261	55.84676856
South Coast AQMI	2021	MDV	Aggregate	Aggregate	GAS	1569537.874	56209459.55	7250478.016	2900.982374
South Coast AQMI	2021	MDV	Aggregate	Aggregate	DSL	30443.59786	1257907.778	149745.6331	47.28975805
South Coast AQMI	2021	MDV	Aggregate	Aggregate	ELEC	7447.232895	256086.1071	38184.47758	0
South Coast AQMI	2021	MH	Aggregate	Aggregate	GAS	35586.60056	336910.0236	3560.08352	66.31669317
South Coast AQMI	2021	MH	Aggregate	Aggregate	DSL	12385.96705	120326.0615	1238.596705	11.5017579
South Coast AQMI	2021	Motor Coach	Aggregate	Aggregate	DSL	936.7180133	121777.4852	13676.08299	19.095862
South Coast AQMI	2021	OBUS	Aggregate	Aggregate	GAS	5971.380603	256430.9176	119475.3831	51.52781599
South Coast AQMI	2021	PTO	Aggregate	Aggregate	DSL	0	184277.0663	0	37.77924686
South Coast AQMI	2021	SBUS	Aggregate	Aggregate	GAS	2478.674789	102530.0329	9914.699156	11.32626665
South Coast AQMI	2021	SBUS	Aggregate	Aggregate	DSL	6588.549248	208177.801	76030.94486	27.67710054
South Coast AQMI	2021	T6 Ag	Aggregate	Aggregate	DSL	22.85219443	295.9499337	100.5496555	0.03331492
South Coast AQMI	2021	T6 CAIRP heavy	Aggregate	Aggregate	DSL	553.9909057	109271.7981	8088.267223	9.57657839
South Coast AQMI	2021	T6 CAIRP small	Aggregate	Aggregate	DSL	290.6444949	15244.08207	4243.409626	1.420660498
South Coast AQMI	2021	T6 instate constructio	Aggregate	Aggregate	DSL	4437.44508	301960.5176	20061.51668	30.27097921
South Coast AQMI	2021	T6 instate constructio	Aggregate	Aggregate	DSL	15142.85734	783531.3116	68460.26926	77.50037708
South Coast AQMI	2021	T6 instate heavy	Aggregate	Aggregate	DSL	19458.60514	2637090.961	224549.6055	244.2126592
South Coast AQMI	2021	T6 instate small	Aggregate	Aggregate	DSL	73641.89125	3701851.926	849817.215	362.4172167
South Coast AQMI	2021	T6 OOS heavy	Aggregate	Aggregate	DSL	315.3567479	62634.7864	4604.208519	5.48224883
South Coast AQMI	2021	T6 OOS small	Aggregate	Aggregate	DSL	168.9205063	8782.744179	2466.239392	0.819435315
South Coast AQMI	2021	T6 Public	Aggregate	Aggregate	DSL	6848.473225	105431.3592	20773.7021	13.16930467
South Coast AQMI	2021	T6 utility	Aggregate	Aggregate	DSL	1727.884548	29080.11602	19870.6723	3.003492605
South Coast AQMI	2021	T6TS	Aggregate	Aggregate	GAS	25312.94647	1374104.99	506461.4329	274.0654525
South Coast AQMI	2021	T7 Ag	Aggregate	Aggregate	DSL	15.35528183	233.1908321	67.56324004	0.041182328
South Coast AQMI	2021	T7 CAIRP	Aggregate	Aggregate	DSL	12695.33301	2254494.031	185351.862	327.7831802
South Coast AQMI	2021	T7 CAIRP constructior	Aggregate	Aggregate	DSL	1200.356018	216900.8628	5426.762887	29.82955221
South Coast AQMI	2021	T7 NNOOS	Aggregate	Aggregate	DSL	13700.8957	2748390.744	200033.0772	383.7779979
South Coast AQMI	2021	T7 NOOS	Aggregate	Aggregate	DSL	4984.814753	885784.3618	72778.2954	131.8797165
South Coast AQMI	2021	T7 POLA	Aggregate	Aggregate	DSL	13972.3405	1763019.447	106189.7878	305.1567273
South Coast AQMI	2021	T7 Public	Aggregate	Aggregate	DSL	8362.274492	169425.2438	25365.56593	29.48961577
South Coast AQMI	2021	T7 Single	Aggregate	Aggregate	DSL	13219.9658	928056.1397	152556.5725	141.4001547
South Coast AQMI	2021	T7 single construction	Aggregate	Aggregate	DSL	7652.776468	538091.1461	34597.90487	81.75636127
South Coast AQMI	2021	T7 SWCV	Aggregate	Aggregate	DSL	2417.805971	98787.63455	9429.443288	48.60247853
South Coast AQMI	2021	T7 SWCV	Aggregate	Aggregate	NG	4728.677954	192520.0593	18441.84402	87.65918503
South Coast AQMI	2021	T7 tractor	Aggregate	Aggregate	DSL	21110.23019	2852684.512	268099.9234	407.5928615
South Coast AQMI	2021	T7 tractor constructio	Aggregate	Aggregate	DSL	6390.521815	443877.8215	28891.30066	67.90395556
South Coast AQMI	2021	T7 utility	Aggregate	Aggregate	DSL	693.8552226	14077.3145	7979.33506	2.21745907
South Coast AQMI	2021	T7IS	Aggregate	Aggregate	GAS	82.02365392	7779.478841	1641.129268	1.923014316
South Coast AQMI	2021	UBUS	Aggregate	Aggregate	GAS	943.9678376	88729.36464	3775.87135	18.45610299
South Coast AQMI	2021	UBUS	Aggregate	Aggregate	DSL	14.14141831	1478.085683	56.56567323	0.246796198
South Coast AQMI	2021	UBUS	Aggregate	Aggregate	ELEC	17.11693886	1343.18541	68.46775545	0
South Coast AQMI	2021	UBUS	Aggregate	Aggregate	NG	5362.039124	590313.6899	21448.15649	148.4992624

Scenario 12 – Hydrogen Fuel Station Installation

Modeling Assumptions and CalEEMod Outputs

CalEEMod Inputs - South Coast AQMD Rule 2305 Hydrogen Fuel Station Installation, Construction

Name:	South Coast AQMD Rule 2305 Hydrogen Fuel Station Installation
Project Number:	SCA-04
Project Location:	SCAQMD
County/Air Basin:	Los Angeles County, South Coast Air Basin (SoCAB)
Climate Zone:	8
Land Use Setting:	Urban
Operational Year:	2023
Utility Company:	Southern California Edison
Air Basin:	SoCAB
Air District:	SCAQMD

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage*	Land Use Square Feet
Parking	Parking Lot	1.307	1000 sqft	0.03	1,307
				0.03	

* based on modeling for gas station projects

Southern California Edison Carbon Intensity Factors

CO2:[1,2]	531.44	pounds per megawatt hour
CH4:[3]	0.029	pound per megawatt hour
N2O:[3]	0.00617	pound per megawatt hour

[1] Based on CO_2e intensity factor of 534 pounds per megawatt hour; Southern California Edison. 2020. 2019 Sustainability Report. https://www.edison.com/content/dam/eix/documents/sustainability/eix-2019-sustainability-report.pdf.

[2] Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

[3] CalEEMod default values.

Global Warming Potentials (GWP)

	AR4	AR5
CO_2	1	1
CH_4	25	28
N_2O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC).

Construction Mitigation

SCAQMD Rule 403

Replace Ground Cover	PM10:	5	% Reduction
Replace Ground Cover	PM2.5:	5	% Reduction
Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	15	mph
SCAQMD Rule 1186	Clean Paved Road	9	% PM Reduction

CalEEMod Construction Off-Road Equipment Inputs

**Based on CalEEMod defaults, assumed equipment would not be shared for most conservative results*

General Construction Hours: 8 hours btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

FUELING STATION INSTALLATION

		Construction Schedule		
Construction Activities	**Phase Type**	**Start Date**	**End Date**	**CalEEMod Duration (Workday)**
Demolition[1]	Demolition	1/1/2021	1/4/2021	2
Building Construction[1]	Building Construction	1/5/2021	3/8/2021	45
			Total Construction Days:	47

[1] based on info from similar projects within the South Coast AQMD region

	Construction Equipment Details							
	Equipment	**model**	**# of Equipment**	**hr/day**	**hp**	**load factor***	**Tier Rating**	**total trips**
Demolition								
	Tractors/Loaders/Backhoes		1	8	97	0.37		
	Worker Trips							3
	Vendor Trips							0
	Hauling Trips							0
	Water Trucks							2
Fuel Station Installation*								
	Tractors/Loaders/Backhoes		1	8	97	0.37		
	Crane		1	8	231	0.2881		
	Worker Trips							1
	Vendor Trips							0
	Hauling Trips							0
	Concrete Vendor							2
	Delivery Trucks							4

***based on info provided by SCAQMD**

Emissions Worksheet

Regional Construction Emissions Worksheet - Fuel Station Installation

Site Preparation

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2021** Summer						
	Off-Road		0.19	1.90	2.26	0.00	0.11	0.10
	Total		**0.19**	**1.90**	**2.26**	**0.00**	**0.11**	**0.10**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.05	0.00	0.01	0.00
	Worker		0.01	0.01	0.11	0.00	0.03	0.01
	Total		**0.02**	**0.20**	**0.16**	**0.00**	**0.04**	**0.01**
TOTAL			***0.21***	***2.09***	***2.42***	***0.00***	***0.16***	***0.12***
Onsite		**2021** Winter						
	Off-Road		0.19	1.90	2.26	0.00	0.11	0.10
	Total		**0.19**	**1.90**	**2.26**	**0.00**	**0.11**	**0.10**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.05	0.00	0.01	0.00
	Worker		0.01	0.01	0.10	0.00	0.03	0.01
	Total		**0.02**	**0.20**	**0.15**	**0.00**	**0.04**	**0.01**
TOTAL			***0.21***	***2.09***	***2.41***	***0.00***	***0.16***	***0.12***
Onsite		**2021**						
	Off-Road		0.19	1.90	2.26	0.00	0.11	0.10
	Total		**0.19**	**1.90**	**2.26**	**0.00**	**0.11**	**0.10**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.05	0.00	0.01	0.00
	Worker		0.01	0.01	0.11	0.00	0.03	0.01
	Total		**0.02**	**0.20**	**0.16**	**0.00**	**0.04**	**0.01**
TOTAL			***0.21***	***2.09***	***2.42***	***0.00***	***0.16***	***0.12***

Fuel Station Installation

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2021 Summer**						
	Off-Road		0.60	6.75	4.24	0.01	0.31	0.28
	Total		**0.60**	**6.75**	**4.24**	**0.01**	**0.31**	**0.28**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.02	0.57	0.14	0.00	0.04	0.01
	Worker		0.00	0.00	0.04	0.00	0.01	0.00
	Total		**0.02**	**0.58**	**0.17**	**0.00**	**0.05**	**0.01**
TOTAL			***0.62***	***7.32***	***4.42***	***0.01***	***0.36***	***0.30***
Onsite		**2021 Winter**						
	Off-Road		0.60	6.75	4.24	0.01	0.31	0.28
	Total		**0.60**	**6.75**	**4.24**	**0.01**	**0.31**	**0.28**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.02	0.57	0.15	0.00	0.04	0.01
	Worker		0.00	0.00	0.03	0.00	0.01	0.00
	Total		**0.02**	**0.57**	**0.19**	**0.00**	**0.05**	**0.01**
TOTAL			***0.62***	***7.32***	***4.43***	***0.01***	***0.36***	***0.30***
Onsite		**2021**						
	Off-Road		0.60	6.75	4.24	0.01	0.31	0.28
	Total		**0.60**	**6.75**	**4.24**	**0.01**	**0.31**	**0.28**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.02	0.57	0.15	0.00	0.04	0.01
	Worker		0.00	0.00	0.04	0.00	0.01	0.00
	Total		**0.02**	**0.58**	**0.19**	**0.00**	**0.05**	**0.01**
TOTAL			***0.62***	***7.32***	***4.43***	***0.01***	***0.36***	***0.30***

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Site Preparation	*0*	*2*	*2*	*0*	*0*	*0*
Fuel Station Installation	*1*	*7*	*4*	*0*	*0*	*0*
MAX DAILY (One Projects)	**1**	**7**	**4**	**0**	**0**	**0**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	No	No	No	No	No
MAX DAILY -Year 3 (1,160 Projects)*	**722**	**8,491**	**5,138**	**12**	**413**	**346**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	Yes	Yes	Yes	No	Yes	Yes
*represents worst case scenario for 1160 hydrogen fueling stations installed in year 3						
AVERAGE DAILY -Year 3 (1,160 Projects)*	**90**	**1,061**	**648**	**2**	**52**	**43**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	Yes	Yes	Yes	No	No	No
*represents worst case scenario for 1160 hydrogen fueling stations installed in year 3						
MAX DAILY -Year 10 (54 Projects)**	**34**	**395**	**239**	**1**	**19**	**16**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	Yes	No	No	No	No
**represents final year scenario of 54 hydrogen fueling stations installed in year 10						
AVERAGE DAILY -Year 10 (54 Projects)**	**4**	**49**	**30**	**0**	**2**	**2**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	No	No	No	No	No
**represents final year scenario of 54 hydrogen fueling stations installed in year 10						

Hydrogen Fuel Station Installation Construction Emissions by Year

		NOx	PM10 Total
MAX DAILY (One Project)		7	0
Scenario 12	# Implemented		
Year 1	955	6,991	340
Year 2	1,003	7,342	357
Year 3	1,160	8,491	413
Year 4	54	395	19
Year 5	54	395	19
Year 6	54	395	19
Year 7	54	395	19
Year 8	54	395	19
Year 9	54	395	19
Year 10	54	395	19

GHG Emissions Inventory

Hydrogen Fueling Station Construction*

	# Implemented	$MTCO_2e$ Total Project**	
Year 2022	955	20,588	
Year 2023	1,003	21,622	
Year 2024	1,160	25,007	
Year 2025	54	1,164	
Year 2026	54	1,164	
Year 2027	54	1,164	
Year 2028	54	1,164	
Year 2029	54	1,164	
Year 2030	54	1,164	
Year 2031	54	1,164	
	Total Construction	**75,365**	
Amortized Construction Emissions****		2,512	$MTCO_2e$/Year

* Based on calculations using CalEEMod, Version 2016.3.2.25

** $MTCO_2e$=metric tons of carbon dioxide equivalent.

*** Total construction emissions are amortized over 30 years per SCAQMD methodology; SCAQMD. 2009, November 19. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 14. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf?sfvrsn=2.

CalEEMod Outputs

South Coast AQMD Rule 2305 Hydrogen Fuel Station Installation - South Coast AQMD Air District, Summer

South Coast AQMD Rule 2305 Hydrogen Fuel Station Installation

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.31	1000sqft	0.03	1,307.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2019 SCE Sustainability Report

Land Use -

Construction Phase - based on info from similar projects within the SCAQMD region

Off-road Equipment - based on info from similar projects within SCAQMD region

Off-road Equipment -

Trips and VMT - assuming 2 vt/water truck/day for demolition. Assuming a max of 6 vt/day for installation based on info from similar projects within SCAQMD region

Off-road Equipment - based on info from similar projects within the SCAQMD region

Construction Off-road Equipment Mitigation - SCAQMD Rules 403 and 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	45.00
tblConstructionPhase	NumDays	10.00	2.00
tblConstructionPhase	PhaseEndDate	6/8/2021	3/8/2021
tblConstructionPhase	PhaseEndDate	1/14/2021	1/4/2021
tblConstructionPhase	PhaseStartDate	1/20/2021	1/5/2021
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.6211	7.3201	4.4166	0.0105	0.0496	0.3099	0.3595	0.0140	0.2851	0.2992	0.0000	1,034.1760	1,034.1760	0.2882	0.0000	1,041.3812
Maximum	**0.6211**	**7.3201**	**4.4166**	**0.0105**	**0.0496**	**0.3099**	**0.3595**	**0.0140**	**0.2851**	**0.2992**	**0.0000**	**1,034.1760**	**1,034.1760**	**0.2882**	**0.0000**	**1,041.3812**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.6211	7.3201	4.4166	0.0105	0.0462	0.3099	0.3561	0.0132	0.2851	0.2984	0.0000	1,034.1760	1,034.1760	0.2882	0.0000	1,041.3812
Maximum	**0.6211**	**7.3201**	**4.4166**	**0.0105**	**0.0462**	**0.3099**	**0.3561**	**0.0132**	**0.2851**	**0.2984**	**0.0000**	**1,034.1760**	**1,034.1760**	**0.2882**	**0.0000**	**1,041.3812**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**6.74**	**0.00**	**0.93**	**5.85**	**0.00**	**0.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/4/2021	5	2	
2	Fuel Station Installation	Building Construction	1/5/2021	3/8/2021	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.03

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Fuel Station Installation	Cranes	1	8.00	231	0.29
Fuel Station Installation	Forklifts	0	6.00	89	0.20
Demolition	Rubber Tired Dozers	0	1.00	247	0.40

Fuel Station Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	1	3.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fuel Station Installation	2	1.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028		300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**		**0.1118**	**0.1118**		**0.1028**	**0.1028**		**300.9001**	**300.9001**	**0.0973**		**303.3330**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.5700e-003	0.1908	0.0453	5.1000e-004	0.0128	3.8000e-004	0.0132	3.6900e-003	3.7000e-004	4.0500e-003		54.4877	54.4877	3.3000e-003		54.5701
Worker	0.0127	8.2100e-003	0.1130	3.3000e-004	0.0335	2.5000e-004	0.0338	8.8900e-003	2.3000e-004	9.1200e-003		33.2221	33.2221	8.9000e-004		33.2444
Total	**0.0182**	**0.1990**	**0.1583**	**8.4000e-004**	**0.0463**	**6.3000e-004**	**0.0470**	**0.0126**	**6.0000e-004**	**0.0132**		**87.7098**	**87.7098**	**4.1900e-003**		**87.8145**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028	0.0000	300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**		**0.1118**	**0.1118**		**0.1028**	**0.1028**	**0.0000**	**300.9001**	**300.9001**	**0.0973**		**303.3330**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.5700e-003	0.1908	0.0453	5.1000e-004	0.0120	3.8000e-004	0.0124	3.4800e-003	3.7000e-004	3.8500e-003		54.4877	54.4877	3.3000e-003		54.5701

Worker	0.0127	8.2100e-003	0.1130	3.3000e-004	0.0309	2.5000e-004	0.0312	8.2500e-003	2.3000e-004	8.4800e-003		33.2221	33.2221	8.9000e-004		33.2444
Total	**0.0182**	**0.1990**	**0.1583**	**8.4000e-004**	**0.0429**	**6.3000e-004**	**0.0435**	**0.0117**	**6.0000e-004**	**0.0123**		**87.7098**	**87.7098**	**4.1900e-003**		**87.8145**

3.3 Fuel Station Installation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6002	6.7452	4.2431	8.8800e-003		0.3087	0.3087		0.2840	0.2840		859.6388	859.6388	0.2780		866.5895
Total	**0.6002**	**6.7452**	**4.2431**	**8.8800e-003**		**0.3087**	**0.3087**		**0.2840**	**0.2840**		**859.6388**	**859.6388**	**0.2780**		**866.5895**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0167	0.5723	0.1358	1.5300e-003	0.0384	1.1500e-003	0.0396	0.0111	1.1000e-003	0.0122		163.4631	163.4631	9.8900e-003		163.7103
Worker	4.2200e-003	2.7400e-003	0.0377	1.1000e-004	0.0112	8.0000e-005	0.0113	2.9600e-003	8.0000e-005	3.0400e-003		11.0740	11.0740	3.0000e-004		11.0815
Total	**0.0209**	**0.5750**	**0.1735**	**1.6400e-003**	**0.0496**	**1.2300e-003**	**0.0508**	**0.0140**	**1.1800e-003**	**0.0152**		**174.5371**	**174.5371**	**0.0102**		**174.7918**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6002	6.7452	4.2431	8.8800e-003		0.3087	0.3087		0.2840	0.2840	0.0000	859.6388	859.6388	0.2780		866.5895
Total	**0.6002**	**6.7452**	**4.2431**	**8.8800e-003**		**0.3087**	**0.3087**		**0.2840**	**0.2840**	**0.0000**	**859.6388**	**859.6388**	**0.2780**		**866.5895**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0167	0.5723	0.1358	1.5300e-003	0.0359	1.1500e-003	0.0371	0.0105	1.1000e-003	0.0116		163.4631	163.4631	9.8900e-003		163.7103
Worker	4.2200e-003	2.7400e-003	0.0377	1.1000e-004	0.0103	8.0000e-005	0.0104	2.7500e-003	8.0000e-005	2.8300e-003		11.0740	11.0740	3.0000e-004		11.0815
Total	**0.0209**	**0.5750**	**0.1735**	**1.6400e-003**	**0.0462**	**1.2300e-003**	**0.0475**	**0.0132**	**1.1800e-003**	**0.0144**		**174.5371**	**174.5371**	**0.0102**		**174.7918**

South Coast AQMD Rule 2305 Hydrogen Fuel Station Installation - South Coast AQMD Air District, Winter

South Coast AQMD Rule 2305 Hydrogen Fuel Station Installation

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.31	1000sqft	0.03	1,307.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2019 SCE Sustainability Report

Land Use -

Construction Phase - based on info from similar projects within the SCAQMD region

Off-road Equipment - based on info from similar projects within SCAQMD region

Off-road Equipment -

Trips and VMT - assuming 2 vt/water truck/day for demolition. Assuming a max of 6 vt/day for installation based on info from similar projects within SCAQMD region

Off-road Equipment - based on info from similar projects within the SCAQMD region

Construction Off-road Equipment Mitigation - SCAQMD Rules 403 and 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	45.00
tblConstructionPhase	NumDays	10.00	2.00
tblConstructionPhase	PhaseEndDate	6/8/2021	3/8/2021
tblConstructionPhase	PhaseEndDate	1/14/2021	1/4/2021
tblConstructionPhase	PhaseStartDate	1/20/2021	1/5/2021
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.6224	7.3186	4.4289	0.0105	0.0496	0.3099	0.3595	0.0140	0.2852	0.2992	0.0000	1,028.7256	1,028.7256	0.2889	0.0000	1,035.9487
Maximum	**0.6224**	**7.3186**	**4.4289**	**0.0105**	**0.0496**	**0.3099**	**0.3595**	**0.0140**	**0.2852**	**0.2992**	**0.0000**	**1,028.7256**	**1,028.7256**	**0.2889**	**0.0000**	**1,035.9487**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.6224	7.3186	4.4289	0.0105	0.0462	0.3099	0.3562	0.0132	0.2852	0.2984	0.0000	1,028.7256	1,028.7256	0.2889	0.0000	1,035.9487
Maximum	**0.6224**	**7.3186**	**4.4289**	**0.0105**	**0.0462**	**0.3099**	**0.3562**	**0.0132**	**0.2852**	**0.2984**	**0.0000**	**1,028.7256**	**1,028.7256**	**0.2889**	**0.0000**	**1,035.9487**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**6.74**	**0.00**	**0.93**	**5.85**	**0.00**	**0.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/4/2021	5	2	
2	Fuel Station Installation	Building Construction	1/5/2021	3/8/2021	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.03

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Fuel Station Installation	Cranes	1	8.00	231	0.29
Fuel Station Installation	Forklifts	0	6.00	89	0.20
Demolition	Rubber Tired Dozers	0	1.00	247	0.40

Fuel Station Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	1	3.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fuel Station Installation	2	1.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028		300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**		**0.1118**	**0.1118**		**0.1028**	**0.1028**		**300.9001**	**300.9001**	**0.0973**		**303.3330**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.8600e-003	0.1902	0.0507	5.0000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.8000e-004	4.0600e-003		52.9100	52.9100	3.5400e-003		52.9985
Worker	0.0138	8.9900e-003	0.1016	3.1000e-004	0.0335	2.5000e-004	0.0338	8.8900e-003	2.3000e-004	9.1200e-003		31.0700	31.0700	8.3000e-004		31.0909
Total	**0.0197**	**0.1991**	**0.1522**	**8.1000e-004**	**0.0463**	**6.5000e-004**	**0.0470**	**0.0126**	**6.1000e-004**	**0.0132**		**83.9801**	**83.9801**	**4.3700e-003**		**84.0894**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028	0.0000	300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**		**0.1118**	**0.1118**		**0.1028**	**0.1028**	**0.0000**	**300.9001**	**300.9001**	**0.0973**		**303.3330**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.8600e-003	0.1902	0.0507	5.0000e-004	0.0120	4.0000e-004	0.0124	3.4800e-003	3.8000e-004	3.8600e-003		52.9100	52.9100	3.5400e-003		52.9985

Worker	0.0138	8.9900e-003	0.1016	3.1000e-004	0.0309	2.5000e-004	0.0312	8.2500e-003	2.3000e-004	8.4800e-003		31.0700	31.0700	8.3000e-004		31.0909
Total	**0.0197**	**0.1991**	**0.1522**	**8.1000e-004**	**0.0429**	**6.5000e-004**	**0.0435**	**0.0117**	**6.1000e-004**	**0.0123**		**83.9801**	**83.9801**	**4.3700e-003**		**84.0894**

3.3 Fuel Station Installation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6002	6.7452	4.2431	8.8800e-003		0.3087	0.3087		0.2840	0.2840		859.6388	859.6388	0.2780		866.5895
Total	**0.6002**	**6.7452**	**4.2431**	**8.8800e-003**		**0.3087**	**0.3087**		**0.2840**	**0.2840**		**859.6388**	**859.6388**	**0.2780**		**866.5895**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0176	0.5704	0.1520	1.4900e-003	0.0384	1.1900e-003	0.0396	0.0111	1.1400e-003	0.0122		158.7301	158.7301	0.0106		158.9956
Worker	4.6100e-003	3.0000e-003	0.0339	1.0000e-004	0.0112	8.0000e-005	0.0113	2.9600e-003	8.0000e-005	3.0400e-003		10.3567	10.3567	2.8000e-004		10.3636
Total	**0.0222**	**0.5734**	**0.1858**	**1.5900e-003**	**0.0496**	**1.2700e-003**	**0.0509**	**0.0140**	**1.2200e-003**	**0.0152**		**169.0868**	**169.0868**	**0.0109**		**169.3592**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6002	6.7452	4.2431	8.8800e-003		0.3087	0.3087		0.2840	0.2840	0.0000	859.6388	859.6388	0.2780		866.5895
Total	**0.6002**	**6.7452**	**4.2431**	**8.8800e-003**		**0.3087**	**0.3087**		**0.2840**	**0.2840**	**0.0000**	**859.6388**	**859.6388**	**0.2780**		**866.5895**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0176	0.5704	0.1520	1.4900e-003	0.0359	1.1900e-003	0.0371	0.0105	1.1400e-003	0.0116		158.7301	158.7301	0.0106		158.9956
Worker	4.6100e-003	3.0000e-003	0.0339	1.0000e-004	0.0103	8.0000e-005	0.0104	2.7500e-003	8.0000e-005	2.8300e-003		10.3567	10.3567	2.8000e-004		10.3636
Total	**0.0222**	**0.5734**	**0.1858**	**1.5900e-003**	**0.0462**	**1.2700e-003**	**0.0475**	**0.0132**	**1.2200e-003**	**0.0144**		**169.0868**	**169.0868**	**0.0109**		**169.3592**

South Coast AQMD Rule 2305 Hydrogen Fuel Station Installation - South Coast AQMD Air District, Annual

South Coast AQMD Rule 2305 Hydrogen Fuel Station Installation

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.31	1000sqft	0.03	1,307.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2019 SCE Sustainability Report

Land Use -

Construction Phase - based on info from similar projects within the SCAQMD region

Off-road Equipment - based on info from similar projects within SCAQMD region

Off-road Equipment -

Trips and VMT - assuming 2 vt/water truck/day for demolition. Assuming a max of 6 vt/day for installation based on info from similar projects within SCAQMD region

Off-road Equipment - based on info from similar projects within the SCAQMD region

Construction Off-road Equipment Mitigation - SCAQMD Rules 403 and 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

tblConstructionPhase	NumDays	100.00	45.00
tblConstructionPhase	NumDays	10.00	2.00
tblConstructionPhase	PhaseEndDate	6/8/2021	3/8/2021
tblConstructionPhase	PhaseEndDate	1/14/2021	1/4/2021
tblConstructionPhase	PhaseStartDate	1/20/2021	1/5/2021
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0142	0.1670	0.1019	2.4000e-004	1.1400e-003	7.0900e-003	8.2300e-003	3.2000e-004	6.5200e-003	6.8400e-003	0.0000	21.4081	21.4081	5.9800e-003	0.0000	21.5577
Maximum	**0.0142**	**0.1670**	**0.1019**	**2.4000e-004**	**1.1400e-003**	**7.0900e-003**	**8.2300e-003**	**3.2000e-004**	**6.5200e-003**	**6.8400e-003**	**0.0000**	**21.4081**	**21.4081**	**5.9800e-003**	**0.0000**	**21.5577**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0142	0.1670	0.1019	2.4000e-004	1.0700e-003	7.0900e-003	8.1500e-003	3.0000e-004	6.5200e-003	6.8200e-003	0.0000	21.4081	21.4081	5.9800e-003	0.0000	21.5576
Maximum	**0.0142**	**0.1670**	**0.1019**	**2.4000e-004**	**1.0700e-003**	**7.0900e-003**	**8.1500e-003**	**3.0000e-004**	**6.5200e-003**	**6.8200e-003**	**0.0000**	**21.4081**	**21.4081**	**5.9800e-003**	**0.0000**	**21.5576**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**6.14**	**0.00**	**0.97**	**6.25**	**0.00**	**0.29**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	0.1820	0.1820
		Highest	0.1820	0.1820

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/4/2021	5	2	
2	Fuel Station Installation	Building Construction	1/5/2021	3/8/2021	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.03

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Fuel Station Installation	Cranes	1	8.00	231	0.29
Fuel Station Installation	Forklifts	0	6.00	89	0.20
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Fuel Station Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	1	3.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fuel Station Installation	2	1.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9000e-004	1.9000e-003	2.2600e-003	0.0000		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.2730	0.2730	9.0000e-005	0.0000	0.2752
Total	**1.9000e-004**	**1.9000e-003**	**2.2600e-003**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.2730**	**0.2730**	**9.0000e-005**	**0.0000**	**0.2752**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	1.9000e-004	5.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0488	0.0488	0.0000	0.0000	0.0489
Worker	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0287	0.0287	0.0000	0.0000	0.0287
Total	**2.0000e-005**	**2.0000e-004**	**1.5000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0775**	**0.0775**	**0.0000**	**0.0000**	**0.0776**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9000e-004	1.9000e-003	2.2600e-003	0.0000		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.2730	0.2730	9.0000e-005	0.0000	0.2752
Total	**1.9000e-004**	**1.9000e-003**	**2.2600e-003**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.2730**	**0.2730**	**9.0000e-005**	**0.0000**	**0.2752**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	1.9000e-004	5.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0488	0.0488	0.0000	0.0000	0.0489
Worker	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0287	0.0287	0.0000	0.0000	0.0287
Total	**2.0000e-005**	**2.0000e-004**	**1.5000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0775**	**0.0775**	**0.0000**	**0.0000**	**0.0776**

3.3 Fuel Station Installation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0135	0.1518	0.0955	2.0000e-004		6.9400e-003	6.9400e-003		6.3900e-003	6.3900e-003	0.0000	17.5467	17.5467	5.6700e-003	0.0000	17.6885
Total	**0.0135**	**0.1518**	**0.0955**	**2.0000e-004**		**6.9400e-003**	**6.9400e-003**		**6.3900e-003**	**6.3900e-003**	**0.0000**	**17.5467**	**17.5467**	**5.6700e-003**	**0.0000**	**17.6885**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8000e-004	0.0131	3.2400e-003	3.0000e-005	8.5000e-004	3.0000e-005	8.8000e-004	2.5000e-004	3.0000e-005	2.7000e-004	0.0000	3.2960	3.2960	2.1000e-004	0.0000	3.3012
Worker	9.0000e-005	7.0000e-005	7.8000e-004	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2150	0.2150	1.0000e-005	0.0000	0.2152
Total	**4.7000e-004**	**0.0131**	**4.0200e-003**	**3.0000e-005**	**1.1000e-003**	**3.0000e-005**	**1.1300e-003**	**3.2000e-004**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**3.5110**	**3.5110**	**2.2000e-004**	**0.0000**	**3.5164**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.0135	0.1518	0.0955	2.0000e-004		6.9400e-003	6.9400e-003		6.3900e-003	6.3900e-003	0.0000	17.5466	17.5466	5.6700e-003	0.0000	17.6885
Total	**0.0135**	**0.1518**	**0.0955**	**2.0000e-004**		**6.9400e-003**	**6.9400e-003**		**6.3900e-003**	**6.3900e-003**	**0.0000**	**17.5466**	**17.5466**	**5.6700e-003**	**0.0000**	**17.6885**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8000e-004	0.0131	3.2400e-003	3.0000e-005	8.0000e-004	3.0000e-005	8.2000e-004	2.3000e-004	3.0000e-005	2.6000e-004	0.0000	3.2960	3.2960	2.1000e-004	0.0000	3.3012
Worker	9.0000e-005	7.0000e-005	7.8000e-004	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2150	0.2150	1.0000e-005	0.0000	0.2152
Total	**4.7000e-004**	**0.0131**	**4.0200e-003**	**3.0000e-005**	**1.0300e-003**	**3.0000e-005**	**1.0500e-003**	**2.9000e-004**	**3.0000e-005**	**3.2000e-004**	**0.0000**	**3.5110**	**3.5110**	**2.2000e-004**	**0.0000**	**3.5164**

Construction Trips Energy Consumption

Construction-Related Fuel/Energy Usage

CONSTRUCTION WORKER COMMUTE

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
2021	737	27	5	0	7	2
Total	**737**	**27**	**5**	**0**	**7**	**2**

CONSTRUCTION VENDOR TRIPS

Year	Gas		Diesel	
	VMT	Gallons	VMT	Gallons
2021	1	0	1,862	282
Total	**1**	**0**	**1,862**	**282**

CONSTRUCTION TRUCK HAUL TRIPS

Year	Gas		Diesel	
	VMT	Gallons	VMT	Gallons
2021	0	0	0	0
Total	**0**	**0**	**0**	**0**

CONSTRUCTION OFF-ROAD EQUIPMENT

Year	Gasoline gallons	Diesel gallons
2021	0	1,781
Total	**0**	**1,781**

CONSTRUCTION TOTAL (Hydrogen Fuel Installation at One Warehouse)

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
2021	738	27	1,866	2,064	7	2
Total	**738**	**27**	**1,866**	**2,064**	**7**	**2**

Highest Annual Hydrogen Fuel Installation: **1,160**

CONSTRUCTION WORKER COMMUTE

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
Year 3	854,508	31,490	5,270	124	8,431	2,795
Total	**854,508**	**31,490**	**5,270**	**124**	**8,431**	**2,795**

CONSTRUCTION VENDOR TRIPS

Year	Gas		Diesel	
	VMT	Gallons	VMT	Gallons
Year 3	1,301	322	2,159,600	327,344
Total	**1,301**	**322**	**2,159,600**	**327,344**

CONSTRUCTION OFF-ROAD

Year	Gasoline gallons	Diesel gallons
Year 3	0	2,066,467
Total	**0**	**2,066,467**

Worst Case Construction Energy Consumption

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
Year 3	855,809	31,812	2,164,870	2,393,936	8,431	2,795

Construction Worker Trips Fuel Usage Worksheet

Note: Worker vehicles are "LD_Mix", which is 50% LDA, 25% LDT1, and 25% LDT2

Activity[1]	Daily trips[1,2]	Trip miles[2]	Trip days[1]	Annual VMT
2021				
Demolition	3	14.7	2	88
Fuel Station Installation	1	14.7	45	662
				0
				0

[1] *Based on information provided.*

[2] *Based on CalEEMod defaults.*

Year	LDA VMT	LDT1 VMT	LDT2 VMT	Gasoline[1]						Diesel[1]						Electricity[1]			
				LDA mpg	LDA gallons	LDT1 mpg	LDT1 gallons	LDT2 mpg	LDT2 gallons	LDA mpg	LDA gallons	LDT1 mpg	LDT1 gallons	LDT2 mpg	LDT2 gallons	LDA m/kWh	LDA kWh	LDT1 m/kWh	LDT1 kWh
2021	375	187	187	30.04	12	25.81	7	23.82	8	47.45	0	22.31	0	34.67	0	3.02	2	3.02	0

Gasoline		Diesel		Electricity	
VMT	Gallons	VMT	Gallons	VMT	kWh
737	27	5	0	7	2
737	**27**	**5**	**0**	**7**	**2**

[1] *EMFAC2017 v1.0.3.*

Year	VMT from gasoline			VMT from diesel			VMT from electricity	
	LDA	LDT1	LDT2	LDA	LDT1	LDT2	LDA	LDT1
2021	97.48%	99.40%	98.68%	0.86%	0.04%	0.66%	1.66%	0.56%

Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline

Table A 3: Evidence from U.S. Department of Energy and U.S. Environmental Protection Agency's fuel economy website[32]

Vehicle	Model year	Electric consumption	Gasoline fuel economy	Number of kWh that are equivalent to 1 gallon
Ford Fusion Energi & Ford C-Max Energi	2013	0.34 kWh per mile	43 mpg	14.6
Chevrolet Volt	2013	0.35 kWh per mile	37 mpg	12.9
Chevrolet Volt	2012	0.36 kWh per mile	37 mpg	13.3
Fisker Karma	2012	0.62 kWh per mile	20 mpg	12.4
Toyota Prius	2013	0.29 kWh per mile & 0.2 gal	50 mpg	13.1
Average for five models	-	-	-	13.3 +/- 0.8

Table A 5: Average power consumption per mile traveled over time for different PEV categories

Year range	2012- 2020	2020-2030	2030-2040	2040-2050	2050
Efficiency improvement per year	0.3%	0.8%	0.9%	0.9%	
Year	2012	2020	2030	2040	2050
Relative energy efficiency	1.000	0.976	0.901	0.823	0.752

https://www.fhwa.dot.gov/environment/climate_change/mitigation/publications_and_tools/ev_deployment/page08.cfm

0.34	14.6
0.35	12.9
0.36	13.3
0.34	13.3

Year	Estimated Electric Consumption
2013	0.34
2014	0.34
2015	0.34
2016	0.34
2017	0.34
2018	0.34
2019	0.34
2020	0.33
2021	0.33
2022	0.33
2023	0.33
2024	0.32
2025	0.32
2026	0.32
2027	0.32
2028	0.31
2029	0.31
2030	0.31
2031	0.31
2032	0.30
2033	0.30
2034	0.30
2035	0.29

Vendor Trips Fuel Usage Worksheet

Note: Based on CalEEMod methodology, vendor vehicles HHDT (T7).

Activity[1]	Daily trips[1,2]	Trip miles[2]	Trip days[1]	Annual VMT
2021				
Demolition	2	6.9	2	28
Fuel Station Installation	6	6.9	45	1,863

[1] *Based on information provided.*

[2] *Based on CalEEMod defaults.*

Year	HHDT (T7) VMT	Gasoline[1]		Diesel[1]	
		HHDT (T7) mpg	HHDT (T7) gallons	HHDT (T7) mpg	HHDT (T7) gallons
2021	1,891	4.05	0	6.60	282

[1] *EMFAC2017 v1.0.2.*

Year	VMT from gasoline HHDT (T7)	VMT from diesel HHDT (T7)
2021	0.06%	98.47%

VENDOR

Gasoline		Diesel	
VMT	Gallons	VMT	Gallons
1	0.28	1,862	282
1	**0.28**	**1,862**	**282**

Off-Road Construction Equipment Fuel Usage Worksheet

Year	Total Gasoline	Total Diesel Gallons	Total Natural Gas
2021	0	1,781	0
Total	**0**	**1,781**	**0**

Equipment Type[1]	Number of Equipment[1]	Horsepower	OFFROAD2017 Horsepower Category	Fuel Type	Working days[1]	Hours Per Day	Total Hours of Operation	Gasoline Gal/Hr[2]	Total Gasoline gallons	Diesel Gal/Hr[2]	Total Diesel gallons	Natural Gas Gal/Hr[2]	Total Natural Gas gallons
2021													
Demolition													
Tractors/Loaders/Backhoes	1	97	*100*	*Diesel*	2	8	16	0.00	0	1.59	25	0.00	0
Fuel Station Installation													
Cranes	1	231	*300*	*Diesel*	45	8	360	0.00	0	3.29	1,184	0.00	0
Tractors/Loaders/Backhoes	1	97	*100*	*Diesel*	45	8	360	0.00	0	1.59	572	0.00	0
							TOTAL		**0**		**1,781**		**0**

[1] Based on information provided.

[2] OFFROAD2017 v.1.0.1

OFFROAD 2021

	Equipment Type	Horsepower HP	Gas Fuel (Gal/Yr)	Gas Population	Gas Hrs/Yr	Gas Gal/Hr	Diesel Fuel (Gal/Yr)	Diesel Population	Diesel Hrs/Yr	Diesel Gal/Hr	Natural Gas Fuel (Gal/Yr)	Natural Gas Population	Natural Gas Hrs/Yr	Natural Gas Gal/Hr
Air Compressors25	Air Compressors	25	705296.8	4813.19	2326703.45	0.303131368	33799	75.63	61670.4	0.548058712	0	0	0	0
Air Compressors50	Air Compressors	50	214623.65	199.41	96396.5	2.226467247	380768	457.43	372416.8	1.022424337	0	0	0	0
Air Compressors75	Air Compressors	75	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors100	Air Compressors	100	1175387.6	646.71	312582.35	3.760249419	0	0	0	0	0	0	0	0
Air Compressors175	Air Compressors	175	143981.55	43.54	21027.65	6.847248742	0	0	0	0	0	0	0	0
Air Compressors300	Air Compressors	300	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors600	Air Compressors	600	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors750	Air Compressors	750	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors9999	Air Compressors	9999	0	0	0	0	0	0	0	0	0	0	0	0
Aerial Lifts25	Aerial Lifts	25	147799.45	453.11	170086.35	0.868967145	124417.55	678.47	270928.55	0.459226427	259963.95	586.08	219974.55	1.18179103
Aerial Lifts50	Aerial Lifts	50	310406.95	541.06	195497.65	1.587778421	447002.2785	1827.937173	546731.325	0.817590392	0	0	0	0
Aerial Lifts75	Aerial Lifts	75	0	0	0	0	527927.97	1537.227014	458331.3569	1.151847811	0	0	0	0
Aerial Lifts100	Aerial Lifts	100	557230.9	541.06	195497.65	2.850320196	252038.1345	677.1735161	202522.8778	1.244492164	0	0	0	0
Aerial Lifts175	Aerial Lifts	175	0	0	0	0	47668.39218	76.77508654	22927.81652	2.079063749	0	0	0	0
Aerial Lifts300	Aerial Lifts	300	0	0	0	0	2848.557493	2.587924266	777.1811054	3.665242855	0	0	0	0
Aerial Lifts600	Aerial Lifts	600	0	0	0	0	2022.888655	0.862641422	259.0603685	7.808560865	0	0	0	0
Bore/Drill rigs25	Bore/Drill rigs	25	15132.9	93.3	11563.2	1.308712121	13147.3	24.36	19793.95	0.664208003	0	0	0	0
Bore/Drill rigs50	Bore/Drill rigs	50	2617.05	9.52	985.5	2.655555556	20308.26822	49.95691984	17573.27857	1.155633432	0	0	0	0
Bore/Drill rigs75	Bore/Drill rigs	75	0	0	0	0	23076.98517	30.50001422	12290.01485	1.877701976	0	0	0	0
Bore/Drill rigs100	Bore/Drill rigs	100	29922.7	43.59	4675.65	6.399687744	103579.5771	122.0000569	47944.17852	2.160420311	0	0	0	0
Bore/Drill rigs175	Bore/Drill rigs	175	10420.75	10.76	1142.45	9.121405751	146596.0023	120.4224699	37675.6844	3.890997725	0	0	0	0
Bore/Drill rigs300	Bore/Drill rigs	300	0	0	0	0	208820.3308	121.4741946	38990.71183	5.355642946	0	0	0	0
Bore/Drill rigs600	Bore/Drill rigs	600	0	0	0	0	380931.8059	103.0690136	35623.29169	10.6933354	0	0	0	0
Bore/Drill rigs750	Bore/Drill rigs	750	0	0	0	0	166164.5445	19.98276794	9861.815214	16.84928595	0	0	0	0
Bore/Drill rigs9999	Bore/Drill rigs	9999	0	0	0	0	109777.0803	3.155173885	2274.433453	48.26568137	0	0	0	0
Cement and Mortar Mixers25	Cement and Mortar Mixers	25	500714.3	14068.45	1295388.65	0.386535964	33704.1	339.62	101970.05	0.330529405	0	0	0	0
Cement and Mortar Mixers50	Cement and Mortar Mixers	50	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers75	Cement and Mortar Mixers	75	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers100	Cement and Mortar Mixers	100	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers175	Cement and Mortar Mixers	175	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers300	Cement and Mortar Mixers	300	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers600	Cement and Mortar Mixers	600	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers750	Cement and Mortar Mixers	750	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers9999	Cement and Mortar Mixers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws25	Concrete/Industrial Saws	25	447493.65	1980.14	562716.85	0.795237694	1069.45	2.39	1438.1	0.743654822	0	0	0	0
Concrete/Industrial Saws50	Concrete/Industrial Saws	50	59911.1	35.43	21644.5	2.767959528	17118.5	21.27	12380.8	1.382665094	0	0	0	0
Concrete/Industrial Saws75	Concrete/Industrial Saws	75	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws100	Concrete/Industrial Saws	100	58425.55	20.3	12391.75	4.714874816	0	0	0	0	0	0	0	0
Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws300	Concrete/Industrial Saws	300	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws600	Concrete/Industrial Saws	600	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws750	Concrete/Industrial Saws	750	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws9999	Concrete/Industrial Saws	9999	0	0	0	0	0	0	0	0	0	0	0	0
Cranes25	Cranes	25	0	0	0	0	388.3092975	1.981318883	937.9999156	0.413975834	0	0	0	0
Cranes50	Cranes	50	8687	10.76	4478.55	1.939690302	6291.598819	21.13406809	9123.503154	0.689603403	0	0	0	0
Cranes75	Cranes	75	0	0	0	0	2555.256191	6.604396278	2449.387697	1.043222432	0	0	0	0
Cranes100	Cranes	100	29714.65	21.67	8979	3.309349593	143594.8317	250.9670586	109798.9297	1.3077981	0	0	0	0
Cranes175	Cranes	175	1963.7	0.85	365	5.38	433821.06	439.1923525	198591.2842	2.184491942	0	0	0	0
Cranes300	Cranes	300	0	0	0	0	756530.9362	492.6879624	230022.4833	3.288943435	0	0	0	0
Cranes600	Cranes	600	0	0	0	0	1309300.53	488.064885	238703.8291	5.485042006	0	0	0	0
Cranes750	Cranes	750	0	0	0	0	20468.56947	5.283517023	2138.460857	9.571636256	0	0	0	0
Cranes9999	Cranes	9999	0	0	0	0	72302.91666	10.56703405	5171.675211	13.98056021	0	0	0	0
Crawler Tractors25	Crawler Tractors	25	0	0	0	0	0	0	0	0	0	0	0	0
Crawler Tractors50	Crawler Tractors	50	0	0	0	0	20374.40013	58.61580733	19770.22897	1.030559644	0	0	0	0
Crawler Tractors75	Crawler Tractors	75	0	0	0	0	2502.543086	8.7923711	1604.780092	1.55943054	0	0	0	0
Crawler Tractors100	Crawler Tractors	100	0	0	0	0	897912.6207	997.6410408	461822.6223	1.944280287	0	0	0	0
Crawler Tractors175	Crawler Tractors	175	0	0	0	0	981807.7526	662.3586228	296640.1258	3.309760438	0	0	0	0
Crawler Tractors300	Crawler Tractors	300	0	0	0	0	1034109.549	515.2329464	226581.052	4.563971877	0	0	0	0
Crawler Tractors600	Crawler Tractors	600	0	0	0	0	3571864.413	890.9602714	418768.1923	8.529454908	0	0	0	0
Crawler Tractors750	Crawler Tractors	750	0	0	0	0	65411.67192	10.55084532	4719.707884	13.8592628	0	0	0	0
Crawler Tractors9999	Crawler Tractors	9999	0	0	0	0	208044.2951	17.5847422	9621.401139	21.62307674	0	0	0	0
Crushing/Proc. Equipment25	Crushing/Proc. Equipment	25	6668.55	23.44	6767.1	0.985436893	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment75	Crushing/Proc. Equipment	75	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment100	Crushing/Proc. Equipment	100	23038.8	12.5	3018.55	7.632406288	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment300	Crushing/Proc. Equipment	300	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment600	Crushing/Proc. Equipment	600	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0	0	0	0	0	0	0	0	0	0	0	0
Dumpers/Tenders25	Dumpers/Tenders	25	47888	937.5	139809.6	0.342522974	3343.4	14.6	9701.7	0.344620015	0	0	0	0
Dumpers/Tenders100	Dumpers/Tenders	100	2460.1	7.69	967.25	2.543396226	0	0	0	0	0	0	0	0
Excavators25	Excavators	25	0	0	0	0	23818.18122	24.33199051	31984.91076	0.744669303	0	0	0	0
Excavators50	Excavators	50	0	0	0	0	814627.9812	1433.085616	1036383.757	0.786029283	0	0	0	0
Excavators75	Excavators	75	0	0	0	0	59074.12148	51.68505502	40242.82708	1.467941638	0	0	0	0
Excavators100	Excavators	100	0	0	0	0	998938.3705	981.4287152	620899.2783	1.608857355	0	0	0	0
Excavators175	Excavators	175	0	0	0	0	2232657.605	1323.254875	773581.3202	2.886131744	0	0	0	0
Excavators300	Excavators	300	0	0	0	0	2858611.97	1148.230484	661179.9015	4.323501007	0	0	0	0
Excavators600	Excavators	600	0	0	0	0	5025839.698	1186.994275	754351.7604	6.662461681	0	0	0	0
Excavators750	Excavators	750	0	0	0	0	70777.21476	9.984612902	5595.801906	12.64827025	0	0	0	0
Excavators9999	Excavators	9999	0	0	0	0	140696.5644	8.80995256	5910.105746	23.80609933	0	0	0	0
Forklifts25	Forklifts	25	6420.35	10.37	9354.95	0.686305111	123.9418031	0.68037913	214.3108806	0.578327161	6891.2	5.6	7033.55	0.979761287
Forklifts50	Forklifts	50	5195647.25	1809	3252967.6	1.597202275	327133.5322	932.1799646	638310.6931	0.512498906	9159131.15	3808.22	6860784.55	1.334997635
Forklifts75	Forklifts	75	0	0	0	0	27195.17819	70.35796943	35108.35719	0.77460697	0	0	0	0
Forklifts100	Forklifts	100	24080499.05	6394.37	11434745.6	2.105905981	5411135.371	8825.88969	5109904.924	1.058950304	57319005.05	13365.77	24079228.85	2.380433585
Forklifts175	Forklifts	175	1685843.75	233.53	417844.7	4.034618005	1558727.216	1645.895935	939682.4441	1.658780821	4302065.2	489.13	881179.35	4.882167518
Forklifts300	Forklifts	300	0	0	0	0	279136.2939	181.2862136	120946.026	2.307941015	0	0	0	0
Forklifts600	Forklifts	600	0	0	0	0	73746.7609	29.25401325	18376.37083	4.013129773	0	0	0	0
Forklifts750	Forklifts	750	0	0	0	0	1884.928147	0.68037913	145.1783385	12.98353574	0	0	0	0
Forklifts9999	Forklifts	9999	0	0	0	0	4988.816152	0.700322947	545.5524143	9.144522179	0	0	0	0
Generator Sets25	Generator Sets	25	10254306.35	126422.18	14525543.6	0.705949918	883624.85	4304.28	1453035.8	0.608123248	0	0	0	0
Generator Sets50	Generator Sets	50	1675882.9	6562.59	753754.2	2.223381177	1048634.05	2220.56	749615.1	1.398896647	0	0	0	0
Generator Sets75	Generator Sets	75	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets100	Generator Sets	100	757356.75	1267.43	145536.45	5.203897374	0	0	0	0	67798.75	94.33	10833.2	6.258423181
Generator Sets175	Generator Sets	175	123607.25	119.7	13731.3	9.001860712	0	0	0	0	98013.45	78.19	8957.1	10.94254279
Generator Sets300	Generator Sets	300	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets600	Generator Sets	600	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets750	Generator Sets	750	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets9999	Generator Sets	9999	0	0	0	0	0	0	0	0	0	0	0	0
Graders25	Graders	25	0	0	0	0	156.6359825	1.180419517	266.5357149	0.587673523	0	0	0	0
Graders50	Graders	50	0	0	0	0	5231.605693	17.11608299	5962.403942	0.877432281	0	0	0	0
Graders75	Graders	75	0	0	0	0	7835.811274	12.98461468	5086.834119	1.540410222	0	0	0	0
Graders100	Graders	100	0	0	0	0	111350.3124	163.4881031	59366.83246	1.875631693	0	0	0	0
Graders175	Graders	175	0	0	0	0	1365834.703	929.5803694	433844.1812	3.14821487	0	0	0	0
Graders300	Graders	300	0	0	0	0	2876093.031	836.9174373	628054.7635	4.579366638	0	0	0	0
Graders600	Graders	600	0	0	0	0	123777.2039	21.83776106	16565.86102	7.47182436	0	0	0	0
Graders750	Graders	750	0	0	0	0	0	0	0	0	0	0	0	0
Graders9999	Graders	9999	0	0	0	0	97575.44347	3.54125855	2550.746791	38.25367684	0	0	0	0
Pavers25	Pavers	25	40817.95	91.34	36215.3	1.127091312	6369.25	9.11	7526.3	0.846265761	0	0	0	0
Pavers50	Pavers	50	27875.05	30.66	12023.1	2.318457802	22332.27134	68.77986059	24121.17072	0.925836959	0	0	0	0
Pavers75	Pavers	75	0	0	0	0	39349.67304	73.36518463	25250.35419	1.558381033	0	0	0	0
Pavers100	Pavers	100	25163.1	16.81	6588.25	3.819390582	175642.2922	258.4976427	101280.3154	1.734219444	0	0	0	0
Pavers175	Pavers	175	0	0	0	0	295349.6014	228.119871	86974.9521	3.39580068	0	0	0	0
Pavers300	Pavers	300	0	0	0	0	230958.3934	109.4746114	48620.89292	4.750188232	0	0	0	0
Pavers600	Pavers	600	0	0	0	0	41337.312	12.0364756	5232.422643	7.900224202	0	0	0	0
Pavers750	Pavers	750	0	0	0	0	8643.593327	1.14633101	536.4430338	16.11278884	0	0	0	0
Pavers9999	Pavers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Paving Equipment25	Paving Equipment	25	865893.15	10002.12	1892112.55	0.457633004	7551.85	15.86	13165.55	0.573606876	0	0	0	0
Paving Equipment50	Paving Equipment	50	32733.2	83.78	14673	2.230845771	27810.90329	84.69207729	39437.19094	0.705194833	0	0	0	0
Paving Equipment75	Paving Equipment	75	0	0	0	0	4483.700467	9.155900247	3641.171111	1.231389663	0	0	0	0
Paving Equipment100	Paving Equipment	100	13515.95	21.59	3774.1	3.581237911	117286.1901	157.3670355	71341.36997	1.644013707	0	0	0	0
Paving Equipment175	Paving Equipment	175	0	0	0	0	123586.6322	100.7149027	46211.73322	2.674356134	0	0	0	0
Paving Equipment300	Paving Equipment	300	0	0	0	0	89279.29039	44.63501371	20761.65274	4.300201507	0	0	0	0
Paving Equipment600	Paving Equipment	600	0	0	0	0	85018.63693	25.17872568	11457.80157	7.420152671	0	0	0	0
Paving Equipment750	Paving Equipment	750	0	0	0	0	17984.08916	2.861218827	1529.21434	11.76034562	0	0	0	0
Paving Equipment9999	Paving Equipment	9999	0	0	0	0	8165.863568	1.144487531	527.1816229	15.489659	0	0	0	0
Rollers25	Rollers	25	201757.4	1082.22	269490.45	0.748662522	139253.5559	523.8295716	364070.9738	0.382490135	0	0	0	0
Rollers50	Rollers	50	36237.2	21.67	13410.1	2.7022319	458560.917	1738.646789	594944.7884	0.770762138	0	0	0	0
Rollers75	Rollers	75	0	0	0	0	3829.296574	12.3810046	2818.23029	1.358759285	0	0	0	0
Rollers100	Rollers	100	114208.5	40.55	25236.1	4.525600231	712933.3782	1284.676621	420989.9564	1.693468852	0	0	0	0
Rollers175	Rollers	175	0	0	0	0	741171.5801	749.935136	265858.826	2.787838911	0	0	0	0
Rollers300	Rollers	300	0	0	0	0	122733.1973	96.1001786	29246.62747	4.196490602	0	0	0	0
Rollers600	Rollers	600	0	0	0	0	71995.38259	34.78472722	10557.38087	6.819435942	0	0	0	0
Rollers750	Rollers	750	0	0	0	0	0	0	0	0	0	0	0	0
Rollers9999	Rollers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Rough Terrain Forklifts25	Rough Terrain Forklifts	25	0	0	0	0	123.9418031	0.68037913	214.3108806	0.578327161	0	0	0	0
Rough Terrain Forklifts50	Rough Terrain Forklifts	50	5865.55	4.34	1784.85	3.286298569	23235.45927	78.24359991	21123.83232	1.099964198	0	0	0	0
Rough Terrain Forklifts75	Rough Terrain Forklifts	75	0	0	0	0	636.8938631	2.041137389	461.6517536	1.379598059	0	0	0	0
Rough Terrain Forklifts100	Rough Terrain Forklifts	100	129323.15	61.28	25374.8	5.096518987	1813411.263	3239.285036	905690.8398	2.002240923	0	0	0	0
Rough Terrain Forklifts175	Rough Terrain Forklifts	175	7292.7	2.08	872.35	8.359832636	413401.2833	592.6102219	159463.4261	2.592452034	0	0	0	0
Rough Terrain Forklifts300	Rough Terrain Forklifts	300	0	0	0	0	29464.59354	27.21516519	6735.814022	4.374318151	0	0	0	0
Rough Terrain Forklifts600	Rough Terrain Forklifts	600	0	0	0	0	10933.3307	5.443033037	1377.273867	7.938385354	0	0	0	0
Rough Terrain Forklifts750	Rough Terrain Forklifts	750	0	0	0	0	1884.928147	0.68037913	145.1783385	12.98353574	0	0	0	0
Rough Terrain Forklifts9999	Rough Terrain Forklifts	9999	0	0	0	0	0	0	0	0	0	0	0	0
Rubber Tired Dozers25	Rubber Tired Dozers	25	0	0	0	0	0	0	0	0	0	0	0	0
Rubber Tired Dozers50	Rubber Tired Dozers	50	0	0	0	0	19712.57303	21.87594696	21017.07966	0.937931118	0	0	0	0
Rubber Tired Dozers75	Rubber Tired Dozers	75	0	0	0	0	15918.84685	17.38857322	11198.17463	1.421557296	0	0	0	0
Rubber Tired Dozers100	Rubber Tired Dozers	100	0	0	0	0	76706.9984	49.92203281	44304.44468	1.731361243	0	0	0	0
Rubber Tired Dozers175	Rubber Tired Dozers	175	0	0	0	0	84883.81208	37.58175503	28274.39354	3.002144395	0	0	0	0
Rubber Tired Dozers300	Rubber Tired Dozers	300	0	0	0	0	93220.45531	30.85069443	20875.85968	4.465466656	0	0	0	0
Rubber Tired Dozers600	Rubber Tired Dozers	600	0	0	0	0	1033619.582	189.0306186	136243.7192	7.586548492	0	0	0	0
Rubber Tired Dozers750	Rubber Tired Dozers	750	0	0	0	0	29408.23692	2.243686868	2211.39093	13.29852471	0	0	0	0
Rubber Tired Dozers9999	Rubber Tired Dozers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Scrapers25	Scrapers	25	0	0	0	0	0	0	0	0	0	0	0	0
Scrapers50	Scrapers	50	0	0	0	0	980.3487336	3.468415239	1116.654651	0.877933686	0	0	0	0
Scrapers75	Scrapers	75	0	0	0	0	11757.84382	16.76400699	7052.349594	1.667223621	0	0	0	0
Scrapers100	Scrapers	100	0	0	0	0	51789.83885	37.57449842	22868.90451	2.264640129	0	0	0	0
Scrapers175	Scrapers	175	0	0	0	0	694848.4894	375.166915	165889.4579	4.188623547	0	0	0	0
Scrapers300	Scrapers	300	0	0	0	0	820949.9988	368.8081537	147774.3304	5.555430342	0	0	0	0
Scrapers600	Scrapers	600	0	0	0	0	10150562.37	2029.600984	962569.3616	10.54527889	0	0	0	0
Scrapers750	Scrapers	750	0	0	0	0	162028.0357	27.1692527	10384.69246	15.60258392	0	0	0	0
Scrapers9999	Scrapers	9999	0	0	0	0	234885.3073	15.02979937	5894.57908	39.84768109	0	0	0	0
Skid Steer Loaders25	Skid Steer Loaders	25	660693.8	1889.76	603363.25	1.0950183	613470.1	1170.73	977283.85	0.627729702	0	0	0	0
Skid Steer Loaders50	Skid Steer Loaders	50	174626.95	294.73	91450.75	1.909519058	346960.6602	1203.821574	374581.0809	0.926263172	0	0	0	0
Skid Steer Loaders75	Skid Steer Loaders	75	0	0	0	0	1810593.225	3817.373718	1347656.352	1.343512552	0	0	0	0
Skid Steer Loaders100	Skid Steer Loaders	100	233468.6	176.34	54717.15	4.266826763	30834.00723	67.44265637	21611.49658	1.426740953	0	0	0	0
Skid Steer Loaders175	Skid Steer Loaders	175	0	0	0	0	12445.20364	16.11461701	4300.332716	2.894009478	0	0	0	0
Skid Steer Loaders300	Skid Steer Loaders	300	0	0	0	0	11562.25944	10.14624034	2958.752892	3.907815171	0	0	0	0
Skid Steer Loaders600	Skid Steer Loaders	600	0	0	0	0	3343.817792	1.193675334	370.6021613	9.022661336	0	0	0	0
Skid Steer Loaders750	Skid Steer Loaders	750	0	0	0	0	0	0	0	0	0	0	0	0
Skid Steer Loaders9999	Skid Steer Loaders	9999	0	0	0	0	4526.318501	1.193675334	237.1853833	19.08346307	0	0	0	0
Surfacing Equipment25	Surfacing Equipment	25	422735.7	2699.36	1154936.65	0.366025011	0	0	0	0	0	0	0	0
Surfacing Equipment50	Surfacing Equipment	50	0	0	0	0	3214.419573	21.11675045	5090.87263	0.631408367	0	0	0	0
Surfacing Equipment75	Surfacing Equipment	75	0	0	0	0	2157.232946	8.121827098	2043.562344	1.055623751	0	0	0	0
Surfacing Equipment100	Surfacing Equipment	100	0	0	0	0	18714.32518	50.35532801	13453.40116	1.391047882	0	0	0	0
Surfacing Equipment175	Surfacing Equipment	175	0	0	0	0	17306.16086	31.94585325	8198.089918	2.110999152	0	0	0	0
Surfacing Equipment300	Surfacing Equipment	300	0	0	0	0	34125.18889	39.52622521	9589.399489	3.558636694	0	0	0	0
Surfacing Equipment600	Surfacing Equipment	600	0	0	0	0	107969.2528	60.64297566	17050.2665	6.332408516	0	0	0	0
Surfacing Equipment750	Surfacing Equipment	750	0	0	0	0	53750.94342	18.40947476	5422.195032	9.913133539	0	0	0	0
Surfacing Equipment9999	Surfacing Equipment	9999	0	0	0	0	17702.79625	4.873096259	1296.558699	13.65367898	0	0	0	0
Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0	0	0	0	117033.6	171.93	162136.65	0.72182076	0	0	0	0
Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0	0	0	0	685871.3001	1684.785388	860823.4062	0.796761909	0	0	0	0
Tractors/Loaders/Backhoes75	Tractors/Loaders/Backhoes	75	0	0	0	0	97193.41701	317.5849808	71162.44431	1.365796495	0	0	0	0
Tractors/Loaders/Backhoes100	Tractors/Loaders/Backhoes	100	96816.25	37.99	33112.8	2.92383157	10931487.86	11121.93169	6880011.414	1.588876413	0	0	0	0
Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0	0	0	0	1907856.278	1279.732455	702109.9605	2.717318349	0	0	0	0
Tractors/Loaders/Backhoes300	Tractors/Loaders/Backhoes	300	0	0	0	0	1149748.555	533.0261785	293119.761	3.922453236	0	0	0	0
Tractors/Loaders/Backhoes600	Tractors/Loaders/Backhoes	600	0	0	0	0	1624760.872	468.4525226	254532.2911	6.383319243	0	0	0	0
Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0	0	0	0	30704.36522	4.69626589	2524.426308	12.16290811	0	0	0	0
Tractors/Loaders/Backhoes9999	Tractors/Loaders/Backhoes	9999	0	0	0	0	536446.2498	24.65539592	15207.53113	35.27503876	0	0	0	0
Trenchers25	Trenchers	25	406781.55	970.33	421491.05	0.965101276	55563.95	93.87	58075.15	0.956759475	0	0	0	0
Trenchers50	Trenchers	50	173747.3	196.53	79069.95	2.19738725	242864.6169	552.4570494	210362.7203	1.154504071	0	0	0	0
Trenchers75	Trenchers	75	0	0	0	0	14004.7615	28.25064457	7601.550456	1.842355922	0	0	0	0
Trenchers100	Trenchers	100	108784.6	65.26	26221.6	4.148663697	162069.6679	227.8885329	74359.81954	2.17953283	0	0	0	0
Trenchers175	Trenchers	175	0	0	0	0	35941.11513	33.90077349	9698.089966	3.705999352	0	0	0	0
Trenchers300	Trenchers	300	0	0	0	0	85420.24161	46.45661552	14381.63732	5.939535234	0	0	0	0
Trenchers600	Trenchers	600	0	0	0	0	118699.0177	32.64518928	11783.28917	10.0735046	0	0	0	0
Trenchers750	Trenchers	750	0	0	0	0	38548.08213	5.022336813	2296.412445	16.78621896	0	0	0	0
Trenchers9999	Trenchers	9999	0	0	0	0	3169.32498	0.627792102	141.7538547	22.35794566	0	0	0	0
Welders25	Welders	25	2558781.4	15448.99	3209404.85	0.797275981	398842.8	1587.12	1019244.25	0.391312288	0	0	0	0
Welders50	Welders	50	521453.6	1042.15	216507.05	2.408483234	1747875.5	2286.55	1468497.2	1.190247758	0	0	0	0
Welders75	Welders	75	0	0	0	0	0	0	0	0	0	0	0	0
Welders100	Welders	100	734719.45	1063.62	220974.65	3.324903784	0	0	0	0	0	0	0	0
Welders175	Welders	175	91596.75	73.3	15213.2	6.020873321	0	0	0	0	0	0	0	0
Welders300	Welders	300	0	0	0	0	0	0	0	0	0	0	0	0
Welders600	Welders	600	0	0	0	0	0	0	0	0	0	0	0	0
Welders750	Welders	750	0	0	0	0	0	0	0	0	0	0	0	0
Welders9999	Welders	9999	0	0	0	0	0	0	0	0	0	0	0	0

Model Output: OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2021
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consump	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	50	Diesel	0.038676101	0.046798082	0.055693585	0.121393228	0.110291217	1.527712365	0.010400604	0.009568556	1.30589E-05	1.25526E-05	353953.811	317041.5546	981.0730343	12937987
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	75	Diesel	0.037165423	0.044970161	0.053518209	0.147131103	0.276953972	2.823896353	0.021512055	0.019791091	2.51685E-05	2.32029E-05	654265.0952	370273.7033	1057.95218	23354653
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	100	Diesel	0.044347015	0.053659888	0.063859702	0.290317242	0.368661802	6.433207669	0.029649701	0.027277725	5.85467E-05	5.28592E-05	1490502.024	622802.2842	1120.555067	53368494
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	175	Diesel	0.028486617	0.034468806	0.041020728	0.17729967	0.26607235	3.816034779	0.015351	0.01412292	3.46632E-05	3.13549E-05	884132.4348	282595.5308	437.5162721	34291593
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	300	Diesel	0.022453749	0.027169036	0.032333399	0.08327788	0.239445904	3.871306653	0.01021537	0.00939814	3.53586E-05	3.1809E-05	896938.3077	162487.5584	199.5906342	35220369
South Coast AQMD	2021	Agricultural - Agricultural Tractors	Aggregate	600	Diesel	0.011673127	0.014124484	0.016809303	0.051077055	0.110063059	3.118192107	0.004924964	0.004530967	2.86724E-05	2.5621E-05	722450.119	78309.05066	71.21239829	28792833
South Coast AQMD	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregate	50	Diesel	2.43106E-05	2.94158E-05	3.50072E-05	0.000154781	0.000163028	0.00270755	9.04981E-06	8.32583E-06	2.44712E-08	2.22469E-08	627.3089994	615.0088381	0.959821816	21525.31
South Coast AQMD	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregate	100	Diesel	0.000129966	0.000157258	0.00018715	0.001224828	0.001190577	0.028389432	9.87224E-05	9.08246E-05	2.60336E-07	2.33265E-07	6577.512736	2694.289691	4.33197057	225648.8
South Coast AQMD	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregate	175	Diesel	0.000306267	0.000370583	0.000441024	0.003124695	0.003011559	0.075104621	0.000183347	0.000168679	6.89849E-07	6.17105E-07	17400.89783	5198.668697	8.331605796	671028.5
South Coast AQMD	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregate	300	Diesel	7.53691E-05	9.11966E-05	0.000108532	0.000327423	0.000860341	0.022027385	3.42403E-05	3.15011E-05	2.02759E-07	1.8099E-07	5103.497986	1006.318055	1.621137025	194683.8
South Coast AQMD	2021	Agricultural - Balers (Self Propelled)	Aggregate	50	Diesel	0.000276679	0.000334782	0.000398418	0.001244352	0.001394573	0.022632025	9.10477E-05	8.37639E-05	2.02347E-07	1.85959E-07	5243.58613	3891.441281	11.97084369	179036.9
South Coast AQMD	2021	Agricultural - Balers (Self Propelled)	Aggregate	75	Diesel	0.000126636	0.00015323	0.000182357	0.000875809	0.001222986	0.020498245	7.81872E-05	7.19322E-05	1.86989E-07	1.68426E-07	4749.213387	2518.194296	7.693049487	163419.3
South Coast AQMD	2021	Agricultural - Balers (Self Propelled)	Aggregate	100	Diesel	2.54222E-05	3.07609E-05	3.6608E-05	0.00017812	0.000232482	0.004168888	1.71327E-05	1.5762E-05	3.80393E-08	3.42541E-08	965.884458	418.9330969	1.286642068	33198.89
South Coast AQMD	2021	Agricultural - Balers (Self Propelled)	Aggregate	175	Diesel	1.52325E-05	1.84313E-05	2.19348E-05	0.0001263	0.000170109	0.003101534	8.80559E-06	8.10114E-06	2.84106E-08	2.54841E-08	718.5905697	261.0693507	0.80262885	27603.78
South Coast AQMD	2021	Agricultural - Combine Harvesters	Aggregate	75	Diesel	2.93215E-05	3.54791E-05	4.2223E-05	0.000173989	0.000252597	0.003933078	1.87748E-05	1.72729E-05	3.57275E-08	3.23166E-08	911.2501173	613.8309079	1.689195759	35233.55
South Coast AQMD	2021	Agricultural - Combine Harvesters	Aggregate	100	Diesel	0.000200431	0.000242521	0.000288621	0.001191325	0.00170384	0.026897688	0.000136625	0.000125695	2.44338E-07	2.21008E-07	6231.89245	2776.849549	7.681411977	235422.4
South Coast AQMD	2021	Agricultural - Combine Harvesters	Aggregate	175	Diesel	0.000293205	0.000354778	0.000422215	0.002076017	0.003093947	0.050146325	0.000166027	0.000152744	4.57941E-07	4.12033E-07	11618.34069	3653.051326	10.23929221	509840.3

South Coast AQMD	2021	Agricultural - Combine Harvesters	Aggregate	300	Diesel	0.001513036	0.001830774	0.002178772	0.006466963	0.020021534	0.381083086	0.000737697	0.000678681	3.50154E-06	3.13121E-06	88292.6745	16253.97954	43.14070588	3760206
South Coast AQMD	2021	Agricultural - Combine Harvesters	Aggregate	600	Diesel	0.000295332	0.000357352	0.000425278	0.002059643	0.00392246	0.130839129	0.000162485	0.000149486	1.20893E-06	1.07505E-06	30313.95796	3798.442436	8.393674521	1257178
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	50	Diesel	0.002780513	0.003364421	0.004003939	0.009661158	0.00902375	0.130878824	0.0007811	0.000718612	1.13474E-06	1.07538E-06	30323.1549	29308.82787	75.85934131	1298270
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	75	Diesel	0.001902462	0.002301979	0.002739545	0.009731432	0.015654335	0.207295538	0.001135694	0.001044839	1.87233E-06	1.70327E-06	48028.04999	32507.04896	89.60844652	2047296
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	100	Diesel	0.003739049	0.00452425	0.005384231	0.022565542	0.030561051	0.493040064	0.002487708	0.002288692	4.4768E-06	4.05112E-06	114231.85	58004.26424	119.4156178	4890839
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	175	Diesel	0.007347913	0.008890975	0.010580995	0.050246426	0.068195154	1.113530133	0.004022494	0.003700695	1.01438E-05	9.14944E-06	257992.4359	100496.8393	160.7581846	12315417
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	300	Diesel	0.003957067	0.004788051	0.005698177	0.015253698	0.044112522	0.732148874	0.001865264	0.001716043	6.69577E-06	6.01578E-06	169630.678	40965.63844	73.3185642	8060880
South Coast AQMD	2021	Agricultural - Construction Equipment	Aggregate	600	Diesel	0.000536076	0.000648652	0.00077195	0.002493781	0.005356826	0.085207501	0.000230447	0.000212011	7.76987E-07	7.00117E-07	19741.62175	2693.488727	3.049418887	951378.4
South Coast AQMD	2021	Agricultural - Cotton Pickers	Aggregate	100	Diesel	4.98984E-05	6.0377E-05	7.18536E-05	0.000590342	0.000547164	0.014528247	4.07957E-05	3.7532E-05	1.33725E-07	1.19373E-07	3366.031853	1446.087452	3.192876405	130147.9
South Coast AQMD	2021	Agricultural - Cotton Pickers	Aggregate	175	Diesel	0.000118301	0.000143145	0.000170354	0.001510358	0.00138087	0.038403632	7.72516E-05	7.10715E-05	3.53893E-07	3.15548E-07	8897.690615	3088.689852	6.7493163	376320.6
South Coast AQMD	2021	Agricultural - Cotton Pickers	Aggregate	300	Diesel	0.000119865	0.000145036	0.000172605	0.000634363	0.001628383	0.046341998	6.13705E-05	5.64609E-05	4.27733E-07	3.80774E-07	10736.92078	1868.493918	4.045570315	461460.5
South Coast AQMD	2021	Agricultural - Cotton Pickers	Aggregate	600	Diesel	0.000289182	0.000349911	0.000416423	0.001549686	0.003831366	0.115638424	0.000150492	0.000138452	1.06763E-06	9.50156E-07	26792.12515	3537.786702	7.709873198	1147985
South Coast AQMD	2021	Agricultural - Forage & Silage Harvesters	Aggregate	100	Diesel	9.59812E-06	1.16137E-05	1.38213E-05	5.71084E-05	8.17097E-05	0.001290953	6.54983E-06	6.02584E-06	1.17276E-08	1.06073E-08	299.0993015	144.5587067	0.395196656	11564.7
South Coast AQMD	2021	Agricultural - Forage & Silage Harvesters	Aggregate	300	Diesel	9.20504E-06	1.11381E-05	1.32553E-05	3.65956E-05	0.000121722	0.00205268	4.39867E-06	4.04678E-06	1.88292E-08	1.68661E-08	475.5828181	92.92153874	0.261210353	20442.74
South Coast AQMD	2021	Agricultural - Forage & Silage Harvesters	Aggregate	600	Diesel	0.000100071	0.000121086	0.000144102	0.000546521	0.001316317	0.031346511	5.08586E-05	4.67899E-05	2.88756E-07	2.57562E-07	7262.634767	766.4249467	1.889608855	321342.6
South Coast AQMD	2021	Agricultural - Forage & Silage Harvesters	Aggregate	750	Diesel	0.000191481	0.000231692	0.000275733	0.00130515	0.002547215	0.082382314	0.000104467	9.61094E-05	7.6103E-07	6.76903E-07	19087.05774	1348.959746	2.95780971	815928.4
South Coast AQMD	2021	Agricultural - Forage & Silage Harvesters	Aggregate	9999	Diesel	0.000120021	0.000145225	0.00017283	0.000797932	0.002661039	0.049750878	6.55091E-05	6.02684E-05	4.59456E-07	4.08784E-07	11526.7202	576.129637	1.253984217	495471.5
South Coast AQMD	2021	Agricultural - Forklifts	Aggregate	50	Diesel	0.000230924	0.000279418	0.000332531	0.000912066	0.000863094	0.013153783	6.68913E-05	6.154E-05	1.15501E-07	1.0808E-07	3047.583948	3946.414316	6.545598291	130717.5
South Coast AQMD	2021	Agricultural - Forklifts	Aggregate	75	Diesel	1.86682E-05	2.25885E-05	2.68822E-05	0.000102404	0.000152186	0.002121459	1.09944E-05	1.01148E-05	1.91854E-08	1.74312E-08	491.5181561	324.3426804	0.385506137	21082.27
South Coast AQMD	2021	Agricultural - Forklifts	Aggregate	100	Diesel	7.32878E-06	8.86782E-06	1.05534E-05	4.0699E-05	5.66119E-05	0.000843144	4.64475E-06	4.27317E-06	7.62771E-09	6.92778E-09	195.3469616	108.1142286	0.128502053	8378.853
South Coast AQMD	2021	Agricultural - Hay Squeeze/Stack retriever	Aggregate	75	Diesel	1.28075E-05	1.54971E-05	1.84428E-05	5.48155E-05	9.2426E-05	0.00105347	7.7525E-06	7.1323E-06	9.42096E-09	8.65596E-09	244.077292	158.8366733	0.268439361	9970.478
South Coast AQMD	2021	Agricultural - Hay Squeeze/Stack retriever	Aggregate	100	Diesel	2.12133E-05	2.56681E-05	3.05472E-05	9.10479E-05	0.000151098	0.001749803	1.33303E-05	1.22639E-05	1.56499E-08	1.43774E-08	405.4096355	213.6884045	0.36087725	16560.85
South Coast AQMD	2021	Agricultural - Hay Squeeze/Stack retriever	Aggregate	175	Diesel	0.000342495	0.000414418	0.000493192	0.001755296	0.003086035	0.036195491	0.000180665	0.000166212	3.26615E-07	2.97404E-07	8386.08901	2914.014494	4.912121851	355000.8
South Coast AQMD	2021	Agricultural - Hay Squeeze/Stack retriever	Aggregate	300	Diesel	0.000804168	0.000973043	0.001158002	0.002773152	0.008468734	0.102663761	0.000367357	0.000337969	9.31419E-07	8.43548E-07	23786.04141	4546.338013	7.641108945	1079141
South Coast AQMD	2021	Agricultural - Hay Squeeze/Stack retriever	Aggregate	600	Diesel	0.00019594	0.000237087	0.000282154	0.001050722	0.002061043	0.02727655	8.78902E-05	8.08589E-05	2.47999E-07	2.24121E-07	6319.670582	885.2909162	1.498963323	281493.3
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	50	Diesel	0.000555925	0.000672669	0.000800532	0.005875488	0.007534209	0.142095701	0.000275382	0.000253351	1.30588E-06	1.16755E-06	32921.97927	31851.09722	81.24915014	1276198
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	75	Diesel	0.000324481	0.000392622	0.000467252	0.005080274	0.00506409	0.13038839	0.000220328	0.000202702	1.20386E-06	1.07135E-06	30209.52673	18021.39182	45.69062627	1176110
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	100	Diesel	0.000733655	0.000887722	0.001056463	0.017270967	0.010808248	0.446602346	0.000727064	0.000668899	4.13475E-06	3.66956E-06	103472.7518	48937.6956	87.27464384	4026055
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	175	Diesel	0.000826284	0.000999804	0.00118985	0.014197962	0.01038131	0.368033901	0.000579046	0.000532722	3.40069E-06	3.02399E-06	85269.32486	29002.12166	58.7597314	3574487
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	300	Diesel	5.58192E-05	6.75412E-05	8.03796E-05	0.000363048	0.000744077	0.026880936	3.06961E-05	2.82404E-05	2.4852E-07	2.2087E-07	6228.011226	1362.941128	2.814220423	268908.7
South Coast AQMD	2021	Agricultural - Nut Harvester	Aggregate	600	Diesel	0.000417865	0.000505617	0.000601726	0.003139717	0.006014737	0.246275242	0.000249956	0.00022996	2.27967E-06	2.02355E-06	57059.20981	7546.669191	17.71478147	2452667
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	50	Diesel	0.000281015	0.000340029	0.000404662	0.00166638	0.001592832	0.025578377	9.40387E-05	8.65156E-05	2.29641E-07	2.10168E-07	5926.22298	6034.302395	4.758650328	229137.9
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	75	Diesel	0.000380501	0.000460406	0.000547921	0.003366337	0.003503864	0.074819532	0.000225102	0.000207094	6.84968E-07	6.14763E-07	17334.84585	10044.49092	7.152606918	676420.4
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	100	Diesel	0.001208427	0.001462196	0.001740135	0.010196858	0.009736928	0.224490553	0.000848562	0.000780677	2.0532E-06	1.84455E-06	52011.94181	23470.33076	18.79344244	2010391
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	175	Diesel	0.00087717	0.001061376	0.001263125	0.00652357	0.008362972	0.149845337	0.000493622	0.000454133	1.36837E-06	1.23122E-06	34717.48301	11444.68723	16.92028694	1520396
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	300	Diesel	0.000746265	0.000902981	0.001074622	0.002896715	0.008370552	0.154036886	0.000343201	0.000315745	1.41131E-06	1.26566E-06	35688.61795	7106.415973	10.63260717	1517568
South Coast AQMD	2021	Agricultural - Other Harvesters	Aggregate	600	Diesel	0.000240254	0.000290707	0.000345966	0.001260785	0.002656274	0.048164159	0.000110701	0.000101845	4.41081E-07	3.95746E-07	11159.09524	1251.659219	2.033930063	482957.5
South Coast AQMD	2021	Agricultural - Others	Aggregate	50	Diesel	0.00019916	0.000240983	0.00028679	0.000806595	0.000789468	0.012189633	5.93001E-05	5.45561E-05	1.0748E-07	1.00157E-07	2824.201227	2691.912982	5.128726614	121136.1
South Coast AQMD	2021	Agricultural - Others	Aggregate	75	Diesel	3.70281E-05	4.4804E-05	5.33205E-05	0.000227667	0.000323913	0.005026055	2.27661E-05	2.09448E-05	4.56692E-08	4.12971E-08	1164.480493	768.416627	1.556382676	49947.08
South Coast AQMD	2021	Agricultural - Others	Aggregate	100	Diesel	0.000151286	0.000183056	0.000217852	0.000937803	0.001257761	0.020671111	0.000100497	9.24572E-05	1.87858E-07	1.69846E-07	4789.264557	2359.307094	4.733398883	205421.9
South Coast AQMD	2021	Agricultural - Others	Aggregate	175	Diesel	0.000422788	0.000511573	0.000608814	0.003066039	0.004262214	0.070991451	0.000238794	0.000219691	6.4807E-07	5.83309E-07	16447.92264	6151.465024	12.45597194	784301.5
South Coast AQMD	2021	Agricultural - Others	Aggregate	300	Diesel	0.000472604	0.000571851	0.00068055	0.001917315	0.005454315	0.092979445	0.000231086	0.000212599	8.51229E-07	7.63976E-07	21542.29396	4718.61392	9.466797663	1027221
South Coast AQMD	2021	Agricultural - Others	Aggregate	600	Diesel	0.002184746	0.002643543	0.003146035	0.013188492	0.025568453	0.470431497	0.001064772	0.00097959	4.313E-06	3.86535E-06	108993.6987	13910.55304	28.17500635	5197247
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	50	Diesel	0.000496038	0.000600206	0.000714295	0.001942538	0.00189609	0.029209694	0.000145272	0.00013365	2.56988E-07	2.40005E-07	6767.558201	7329.48554	13.09571149	275304.2
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	75	Diesel	0.000118523	0.000143413	0.000170673	0.000697211	0.001022665	0.015215825	7.2145E-05	6.63734E-05	1.38066E-07	1.25023E-07	3525.335999	2365.242325	4.243894179	143972.3
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	100	Diesel	0.000337924	0.000408888	0.000486611	0.002006275	0.0027727	0.043735777	0.000220965	0.000203288	3.96933E-07	3.5936E-07	10133.08883	4717.463138	8.39276906	416659.3
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	175	Diesel	0.000449845	0.000544312	0.000647776	0.003174925	0.004539993	0.072672225	0.000252451	0.000232255	6.62902E-07	5.97119E-07	16837.33892	6268.990383	11.20891991	747308.5
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	300	Diesel	0.000182189	0.000220449	0.000262352	0.000746905	0.002092707	0.034345541	8.97983E-05	8.26144E-05	3.14206E-07	2.82204E-07	7957.476449	1640.435038	2.954134151	358434.7
South Coast AQMD	2021	Agricultural - Sprayers/Spray rigs	Aggregate	600	Diesel	1.03009E-05	1.24641E-05	1.48333E-05	6.58808E-05	0.000120219	0.002119885	5.04392E-06	4.64041E-06	1.94218E-08	1.74183E-08	491.1534825	67.5905459	0.12342979	22304.88
South Coast AQMD	2021	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	50	Diesel	9.31855E-05	0.000112754	0.000134187	0.000642952	0.000742475	0.012970096	3.66228E-05	3.3693E-05	1.17924E-07	1.0657E-07	3005.025621	2469.931559	5.645112468	109334.3
South Coast AQMD	2021	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	75	Diesel	0.000207663	0.000251272	0.000299034	0.00237444	0.002529124	0.058259264	0.000135216	0.000124399	5.36019E-07	4.78694E-07	13498.01767	7505.675465	16.22488779	483104.4
South Coast AQMD	2021	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	100	Diesel	0.000459143	0.000555563	0.000661166	0.005503671	0.004934749	0.135092397	0.000365985	0.000336706	1.2436E-06	1.11E-06	31299.39244	13264.57429	28.64094431	1136615
South Coast AQMD	2021	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	175	Diesel	0.000238034	0.000288021	0.000342769	0.00330384	0.002774311	0.084099996	0.000155996	0.000143516	7.7562E-07	6.91017E-07	19485.02537	6342.196354	13.20025452	749626.2
South Coast AQMD	2021	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	300	Diesel	0.000107422	0.000129981	0.000154688	0.000603271	0.001392297	0.043195319	5.53593E-05	5.09306E-05	3.98818E-07	3.54919E-07	10007.87073	1926.340874	3.985903848	395970.6
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	50	Diesel	0.000335427	0.000405867	0.000483015	0.001415191	0.001216468	0.121074361	0.000129034	0.000118711	1.10933E-06	9.88193E-07	3928.124295	2957.283977	9.38581113	127574.6
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	75	Diesel	5.04596E-06	6.10561E-06	7.26618E-06	0.000127296	0.000109686	0.020258863	7.46518E-06	6.86796E-06	1.87152E-07	1.6535E-07	657.2765052	412.7718419	1.251441484	23734.38
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	100	Diesel	0.000924452	0.001118587	0.001331211	0.007592174	0.010041284	1.088124398	0.000700307	0.000644282	1.00325E-05	8.88113E-06	35302.99774	14514.89555	44.42617268	1274834
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	175	Diesel	0.001731107	0.00209464	0.002492794	0.021676985	0.022914621	3.611283903	0.001394563	0.001282998	3.33362E-05	2.94748E-05	117164.1291	32331.96584	98.86387723	4230708
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	300	Diesel	0.000596335	0.000721565	0.000858722	0.003727721	0.011220748	1.853950228	0.000322255	0.000296474	1.71228E-05	1.51317E-05	60149.3734	9700.138285	29.40887487	2172005
South Coast AQMD	2021	AirGrSupp - A/C Tug Narrow Body	Aggregate	750	Diesel	0.000147882	0.000178938	0.000212951	0.000735719	0.002023074	0.123314819	9.24844E-05	8.50856E-05	1.13567E-06	1.00648E-06	4000.81351	206.385921	0.625720742	144470.1
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	50	Diesel	7.22296E-06	8.73978E-06	1.04011E-05	0.000160167	0.000131062	0.026298942	5.2361E-07	4.81722E-07	2.4293E-07	2.14648E-07	853.2402015	570.4472076	1.42623002	27666.69
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	75	Diesel	6.36255E-05	7.69868E-05	9.16207E-05	0.000390015	0.000666308	0.0463368	4.69157E-05	4.31625E-05	4.26498E-07	3.78195E-07	1503.346454	855.6708114	2.139345031	54192.48
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	100	Diesel	9.75385E-05	0.000118022	0.000140455	0.000883685	0.001355107	0.125840994	8.68671E-05	7.99177E-05	1.16054E-06	1.0271E-06	4082.772474	1711.341623	4.278690061	147175.4
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	175	Diesel	0.000269387	0.000325958	0.000387917	0.002812208	0.003356276	0.474342508	0.000197822	0.000181996	4.37745E-06	3.87152E-06	15389.52028	3707.906849	9.270495133	554759.9
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	300	Diesel	0.000883846	0.001069454	0.001272739	0.007998444	0.013241003	4.276633453	0.000395442	0.000363806	3.95131E-05	3.49053E-05	138750.6625	20692.38638	52.05739575	5001685
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	600	Diesel	0.000801734	0.000970098	0.001154497	0.005499845	0.014655833	2.011254054	0.000471285	0.000433582	1.8571E-05	1.64156E-05	65252.92279	6302.269492	16.40164524	2352282
South Coast AQMD	2021	AirGrSupp - A/C Tug Wide Body	Aggregate	750	Diesel	9.45612E-05	0.000114419	0.000136168	0.000340925	0.00214687	0.168314787	5.49282E-05	5.0534E-05	1.55332E-06	1.37376E-06	5460.787891	312.5738124	1.42623002	196921.5
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	50	Diesel	0.000956721	0.001157632	0.001377678	0.003822109	0.002857076	0.2656999	0.000364731	0.000335552	2.42783E-06	2.16861E-06	8620.340647	9047.62002	12.56761629	408421.5
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	75	Diesel	0.000794556	0.000961412	0.00114416	0.012898974	0.010499621	1.902197094	0.000563808	0.000518703	1.75629E-05	1.55255E-05	61714.68983	48664.76877	66.38279375	3234790
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	100	Diesel	0.000662686	0.000801849	0.000954267	0.012887294	0.009893102	1.91170813	0.000323123	0.000297273	1.76548E-05	1.56031E-05	62023.26492	36356.09298	50.27046517	3254400
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	175	Diesel	2.50514E-05	3.03122E-05	3.6074E-05	0.00011697	0.000274974	0.017364685	1.87109E-05	1.72141E-05	1.59794E-07	1.41728E-07	563.378093	236.2367416	0.322246572	29529.59
South Coast AQMD	2021	AirGrSupp - Baggage Tug	Aggregate	300	Diesel	6.78655E-05	8.21173E-05	9.77264E-05	0.000229507	0.001434801	0.100020588	3.7206E-05	3.42295E-05	9.22704E-07	8.16355E-07	3245.057816	944.9469664	1.288986286	170090.5
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	50	Diesel	0.000334834	0.000405149	0.000482161	0.001691134	0.001351739	0.164862653	0.000121639	0.000111908	1.51419E-06	1.34559E-06	5348.7872	6175.962232	12.04275242	277339.3
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	75	Diesel	0.000770958	0.000932859	0.001110179	0.007006135	0.008922156	0.999120607	0.000631466	0.000580949	9.21424E-06	8.15469E-06	32415.36775	29721.81824	57.95574601	1867457
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	100	Diesel	0.000710909	0.0008602	0.001023709	0.006423236	0.007449099	0.899091103	0.000672795	0.000618972	8.29122E-06	7.33826E-06	29170.02068	19657.83705	38.76260934	1681475
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	175	Diesel	0.000110359	0.000133534	0.000158917	0.000643539	0.001126425	0.08240867	6.47075E-05	5.95309E-05	7.58598E-07	6.72608E-07	2673.658543	1240.471047	2.634352091	154126.9
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	300	Diesel	1.2248E-05	1.48201E-05	1.76372E-05	0.000102472	0.000149745	0.054385363	6.72831E-06	6.19004E-06	5.02452E-07	4.43886E-07	1764.473207	385.9976395	0.752672026	101710.4
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	600	Diesel	3.55226E-06	4.29823E-06	5.11525E-06	8.25703E-05	2.29096E-05	0.046955105	7.70961E-07	7.09284E-07	4.34017E-07	3.83241E-07	1523.406659	192.9988197	0.376336013	87814.46
South Coast AQMD	2021	AirGrSupp - Belt Loader	Aggregate	750	Diesel	4.79436E-05	5.80117E-05	6.90387E-05	0.000739731	0.00064003	0.027537719	3.25632E-05	2.99581E-05	2.53162E-07	2.24759E-07	893.4309625	82.4781281	0.376336013	51548.83
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	25	Diesel	1.92411E-06	2.32817E-06	2.77071E-06	3.86421E-05	4.9261E-05	0.005842012	1.78535E-06	1.64253E-06	5.39546E-08	4.76817E-08	189.5376614	357.4456522	0.774809439	8936.141
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	50	Diesel	2.6881E-05	3.2526E-05	3.87086E-05	0.000245319	0.000209875	0.036859749	7.91366E-06	7.28057E-06	3.3998E-07	3.00844E-07	1195.873955	1242.144867	3.099237754	56388.11
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	75	Diesel	7.9045E-06	9.56444E-06	1.13825E-05	0.000107329	0.000153936	0.015554645	8.45193E-06	7.77578E-06	1.43573E-07	1.26955E-07	504.6533146	357.4456522	0.774809439	26450.98
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	100	Diesel	1.9581E-05	2.3693E-05	2.81967E-05	0.000461101	0.00035867	0.071677484	1.64099E-05	1.50971E-05	6.62106E-07	5.85022E-07	2325.497031	1429.782609	3.099237754	121889
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	175	Diesel	6.3236E-05	7.65155E-05	9.10598E-05	0.000733185	0.000704448	0.11445495	4.5284E-05	4.16613E-05	1.0563E-06	9.34166E-07	3713.364791	1599.59052	3.874047193	194650
South Coast AQMD	2021	AirGrSupp - Bobtail	Aggregate	300	Diesel	0.000269498	0.000326092	0.000388077	0.001707341	0.003838765	0.62587225	0.000151745	0.000139606	5.77841E-06	5.10829E-06	20305.73589	5174.047042	11.62214158	1064335
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	25	Diesel	4.96138E-05	6.00326E-05	7.14438E-05	0.000249695	0.00021644	0.024456044	2.17283E-05	1.999E-05	2.2462E-07	1.99607E-07	793.4494079	1648.187926	3.449746786	41204.7
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	50	Diesel	4.45675E-05	5.39267E-05	6.41772E-05	0.000419262	0.000411741	0.054576052	2.09177E-05	1.92442E-05	5.03246E-07	4.45442E-07	1770.659888	2458.672999	5.519594858	91947.72
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	100	Diesel	0.000849565	0.001027974	0.001223374	0.01645524	0.013251562	2.539538389	0.000578649	0.000532357	2.34538E-05	2.07274E-05	82392.52624	55243.02542	119.3612388	4754987
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	175	Diesel	0.000622938	0.000753755	0.000897031	0.020388774	0.008400146	3.610523841	0.000266992	0.000245632	3.33624E-05	2.94686E-05	117139.4697	50915.39804	106.9421504	6762763
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	300	Diesel	6.1132E-05	7.39697E-05	8.80301E-05	0.000672664	0.000677016	0.355165329	2.49336E-05	2.29389E-05	3.28185E-06	2.89881E-06	11522.94797	3117.948169	6.899493572	665232.8
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	600	Diesel	2.98415E-05	3.61082E-05	4.29717E-05	0.000596696	0.000164741	0.333672507	5.65301E-06	5.20077E-06	3.08407E-06	2.72339E-06	10825.63703	1977.825512	4.139696143	624992.9
South Coast AQMD	2021	AirGrSupp - Cargo Loader	Aggregate	750	Diesel	3.68673E-05	4.46094E-05	5.30889E-05	0.000664648	0.000182792	0.366758178	6.36778E-06	5.85836E-06	3.38976E-06	2.99343E-06	11899.06517	988.9127559	2.069848072	686964.7
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	25	Diesel	7.83064E-06	9.47508E-06	1.12761E-05	0.000158773	0.000122993	0.024211822	5.23978E-07	4.8206E-07	2.23615E-07	1.97614E-07	785.5259119	1511.008333	2.188735538	37775.21
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	50	Diesel	0.000320783	0.000388147	0.000461927	0.001467404	0.001126068	0.125176657	0.00011891	0.000109397	1.1477E-06	1.02168E-06	4061.218781	5768.214351	9.849309921	195285.8
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	75	Diesel	0.002157214	0.002610229	0.003106388	0.017284942	0.020696866	2.380930333	0.001733326	0.001594659	2.19482E-05	1.94328E-05	77246.66254	66826.14235	99.0402831	4135814
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	100	Diesel	0.001010079	0.001222196	0.001454514	0.005842018	0.008886211	0.758603041	0.000892469	0.000821072	6.98336E-06	6.19162E-06	24612.04022	14834.26435	22.98172315	1302535
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	175	Diesel	0.00028397	0.000343603	0.000408916	0.004029126	0.003309007	0.667799865	0.000183416	0.000168742	6.16562E-06	5.45049E-06	21666.03116	8052.715045	12.03804546	1158284
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	300	Diesel	0.000646731	0.000782545	0.000931293	0.003145918	0.01057476	1.040862069	0.000377625	0.000347415	9.60388E-06	8.49538E-06	33769.62353	8172.636341	12.58522934	1805337
South Coast AQMD	2021	AirGrSupp - Cargo Tractor	Aggregate	600	Diesel	0.000324977	0.000393223	0.000467967	0.001898692	0.004044862	0.946287625	0.00013255	0.000121946	8.73915E-06	7.72347E-06	30701.25985	4155.272916	6.01902273	1641333
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	25	Diesel	7.35926E-06	8.9047E-06	1.05973E-05	3.615E-05	3.04368E-05	0.004037364	2.60305E-06	2.3948E-06	3.71067E-08	3.29524E-08	130.9878152	452.781055	1.157409414	11319.53
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	50	Diesel	0.000177755	0.000215084	0.000255968	0.000888609	0.000795361	0.088491118	7.44324E-05	6.84778E-05	8.12812E-07	7.22253E-07	2870.99687	6366.203097	16.7824365	248108.8
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	75	Diesel	7.03379E-05	8.51089E-05	0.000101287	0.000474238	0.000771818	0.058174483	5.62373E-05	5.17383E-05	5.35742E-07	4.74812E-07	1887.407046	2644.393556	7.523161191	181548.1
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	100	Diesel	0.000837855	0.001013805	0.001206512	0.007385786	0.009044051	1.067977642	0.000694832	0.000639245	9.84885E-06	8.71669E-06	34649.35842	37572.58365	100.1159143	3324138
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	175	Diesel	0.000374333	0.000452943	0.00053904	0.003541256	0.004935007	0.570661368	0.000262482	0.000241483	5.26482E-06	4.65766E-06	18514.47962	13538.4072	35.87969184	1779118
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	300	Diesel	0.00023636	0.000285996	0.000340358	0.001642416	0.004147319	0.482884175	0.000130543	0.0001201	4.45741E-06	3.94124E-06	15666.64526	6366.203097	16.7824365	1505155
South Coast AQMD	2021	AirGrSupp - Forklift	Aggregate	600	Diesel	4.58666E-05	5.54986E-05	6.6048E-05	0.000164153	0.00103192	0.080041525	2.68303E-05	2.46839E-05	7.38648E-07	6.53288E-07	2596.859121	679.1715825	1.736114121	249482.4
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	25	Diesel	2.65312E-06	3.21027E-06	3.82049E-06	5.18948E-05	6.49756E-05	0.007654047	2.31169E-06	2.12676E-06	7.06859E-08	6.24713E-08	248.3271375	514.9445807	1.236641666	12873.61
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	50	Diesel	0.000109079	0.000131985	0.000157073	0.001237769	0.001235028	0.181970432	5.29552E-05	4.87188E-05	1.67913E-06	1.48522E-06	5903.835025	6829.791281	16.69466249	306066.8
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	75	Diesel	1.9245E-05	2.32865E-05	2.77128E-05	0.000544306	0.00033962	0.087025018	1.03465E-05	9.51882E-06	8.04012E-07	7.10286E-07	2823.430861	2317.250613	5.564887495	162722.5
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	100	Diesel	0.000601943	0.000728351	0.000866798	0.007794773	0.007143412	1.188434669	0.000470432	0.000432797	1.09696E-05	9.69984E-06	38557.45402	26275.72479	63.68704578	2220426
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	175	Diesel	9.6143E-05	0.000116333	0.000138446	0.001528657	0.001031517	0.257219515	6.67746E-05	6.14326E-05	2.37524E-06	2.09939E-06	8345.203875	3862.084355	9.274812492	480958.2
South Coast AQMD	2021	AirGrSupp - Lift	Aggregate	300	Diesel	0.000112452	0.000136067	0.000161931	0.001527388	0.001449091	0.539736546	4.87876E-05	4.48846E-05	4.98676E-06	4.40526E-06	17511.15782	4512.540668	11.12977499	1009264
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	25	Diesel	5.94759E-06	7.19658E-06	8.56452E-06	0.000121584	9.46907E-05	0.018676356	4.0089E-07	3.68819E-07	1.72494E-07	1.52434E-07	605.9338112	1256.687191	2.588751967	31417.18
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	50	Diesel	0.0026098	0.003157858	0.003758112	0.018479186	0.016939789	2.234979144	0.001129377	0.001039027	2.05852E-05	1.82416E-05	72511.43692	109087.8238	230.398925	3758858
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	75	Diesel	0.000675649	0.000817536	0.000972935	0.009646926	0.010304241	1.434944253	0.000577144	0.000530973	1.32465E-05	1.17118E-05	46555.18599	39463.6656	84.13443891	2683590
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	100	Diesel	0.000403615	0.000488374	0.000581205	0.008759649	0.005494998	1.380279969	0.000248097	0.000228249	1.27493E-05	1.12657E-05	44781.66349	29187.48196	60.83567121	2576139
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	175	Diesel	0.001160974	0.001404778	0.001671802	0.023126611	0.014178199	4.073823353	0.000652818	0.000600592	3.76297E-05	3.325E-05	132170.7122	47348.45577	99.66695071	7618663
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	300	Diesel	0.001142414	0.001382321	0.001645076	0.009232786	0.016256446	4.342750536	0.000562425	0.000517431	4.01166E-05	3.54449E-05	140895.7585	36038.27105	76.36818301	8121629
South Coast AQMD	2021	AirGrSupp - Other GSE	Aggregate	600	Diesel	0.000701517	0.000848835	0.001010184	0.006394195	0.009412969	2.708879515	0.000361542	0.000332619	2.50239E-05	2.21095E-05	87886.61256	14107.23567	29.77064762	5066020
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	50	Diesel	1.36805E-05	1.65534E-05	1.96999E-05	0.000124493	0.000157811	0.022686465	8.35756E-06	7.68896E-06	2.09337E-07	1.85164E-07	736.0373761	752.799521	13.34630544	32545.88
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	75	Diesel	2.80709E-06	3.39657E-06	4.0422E-06	0.000140881	8.59728E-05	0.024241422	9.94297E-07	9.14753E-07	2.2404E-07	1.97855E-07	786.4862305	706.6155013	18.96580247	38837.68
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	100	Diesel	3.39228E-06	4.10466E-06	4.88489E-06	1.53389E-05	3.8481E-05	0.001633519	2.04057E-06	1.87732E-06	1.50009E-08	1.33326E-08	52.99772442	26.17094449	0.702437128	2617.094
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	175	Diesel	6.98936E-06	8.45713E-06	1.00647E-05	6.63461E-05	0.000109287	0.010674667	6.5868E-06	6.05986E-06	9.84829E-08	8.71252E-08	346.3277995	153.9467323	0.702437128	16934.14
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	300	Diesel	2.28534E-06	2.76526E-06	3.29089E-06	1.56345E-05	5.2307E-05	0.008902678	1.11611E-06	1.02682E-06	8.22411E-08	7.26625E-08	288.8375981	52.34188899	1.404874257	14263.16
South Coast AQMD	2021	AirGrSupp - Passenger Stand	Aggregate	600	Diesel	7.20073E-07	8.71288E-07	1.0369E-06	1.75798E-05	4.88471E-06	0.010046142	1.63434E-07	1.50359E-07	9.286E-08	8.19953E-08	325.9360052	52.34188899	1.404874257	16095.13
South Coast AQMD	2021	CHC - AE Barge and Dredge	Aggregate		Diesel	0.003700079	0.004477096	0.005328114	0.045798467	0.116872535	3.368749467	0.003015733	0.002774474	3.10348E-05	0.000195041	775301.1635	0	0	0
South Coast AQMD	2021	CHC - AE Charter Fishing	Aggregate		Diesel	0.023335756	0.028236265	0.033603489	0.097642588	0.134507198	1.75058645	0.007366995	0.006777636	1.5485E-05	0.000101354	402888.8835	0	0	0
South Coast AQMD	2021	CHC - AE Commercial Fishing	Aggregate		Diesel	0.020395843	0.02467897	0.029370013	0.09500212	0.186248766	1.65717505	0.010316351	0.009491043	1.47095E-05	9.59459E-05	381390.7079	0	0	0
South Coast AQMD	2021	CHC - AE Crew and Supply	Aggregate		Diesel	0.002512652	0.003040309	0.003618219	0.009347146	0.011736914	0.196235519	0.000443821	0.000408315	1.73892E-06	1.13615E-05	45162.64199	0	0	0
South Coast AQMD	2021	CHC - AE Ferry and Excursion	Aggregate		Diesel	0.018652506	0.022569532	0.026859609	0.106795448	0.127882671	2.206006864	0.00447273	0.004114912	1.98361E-05	0.000127722	507701.6577	0	0	0
South Coast AQMD	2021	CHC - AE Others	Aggregate		Diesel	0.001138062	0.001377055	0.001638809	0.004783477	0.006939419	0.081734972	0.000394721	0.000363144	7.21539E-07	4.73223E-06	18810.90284	0	0	0
South Coast AQMD	2021	CHC - AE Pilot Vessels	Aggregate		Diesel	0.000187895	0.000227353	0.000270568	0.000618774	0.000664777	0.00941192	4.26741E-05	3.92602E-05	8.1381E-08	5.44925E-07	2166.107206	0	0	0
South Coast AQMD	2021	CHC - AE Tow Boats	Aggregate		Diesel	0.000243664	0.000294833	0.000350876	0.001419063	0.001833368	0.029992325	7.02028E-05	6.45865E-05	2.69984E-07	1.73647E-06	6902.586499	0	0	0
South Coast AQMD	2021	CHC - AE Tug Boats	Aggregate		Diesel	0.008921183	0.010794632	0.012846504	0.053447845	0.066427511	1.129012935	0.002353637	0.002165346	1.01706E-05	6.53668E-05	259836.7882	0	0	0
South Coast AQMD	2021	CHC - AE Work Boats	Aggregate		Diesel	0.00086351	0.001044848	0.001243455	0.005178674	0.007863939	0.10113652	0.000299966	0.000275969	9.09152E-07	5.85553E-06	23276.07396	0	0	0
South Coast AQMD	2021	CHC - ME Barge and Dredge	Aggregate		Diesel	0.000570779	0.000690643	0.000821922	0.005277745	0.021327341	0.402727469	0.000584734	0.000537955	3.70629E-06	2.33168E-05	92685.75121	0	0	0
South Coast AQMD	2021	CHC - ME Charter Fishing	Aggregate		Diesel	0.196148182	0.2373393	0.282453382	1.240083554	2.673830214	29.22952367	0.112115503	0.103146263	0.000264357	0.00169231	6727031.479	0	0	0
South Coast AQMD	2021	CHC - ME Commercial Fishing	Aggregate		Diesel	0.056967817	0.068931059	0.082033657	0.267161079	1.023849472	6.448347435	0.044633129	0.041062479	5.79091E-05	0.000373342	1484055.528	0	0	0
South Coast AQMD	2021	CHC - ME Crew and Supply	Aggregate		Diesel	0.047035017	0.05691237	0.067730424	0.348400848	0.384171652	7.364762562	0.008910399	0.008197567	6.66798E-05	0.0004264	1694963.974	0	0	0
South Coast AQMD	2021	CHC - ME Ferry and Excursion	Aggregate		Diesel	0.299124405	0.36194053	0.430739144	2.721211511	2.930546596	55.78045754	0.074483576	0.06852489	0.000506744	0.003229536	12837598.66	0	0	0
South Coast AQMD	2021	CHC - ME Others	Aggregate		Diesel	0.020048428	0.024258598	0.028869736	0.111560168	0.299011396	2.736261555	0.013575785	0.012489722	2.46966E-05	0.000158422	629737.1733	0	0	0
South Coast AQMD	2021	CHC - ME Pilot Vessels	Aggregate		Diesel	0.013533219	0.016375195	0.019487835	0.087470766	0.173360387	2.196312045	0.007314453	0.006729297	1.99E-05	0.00012716	505470.4425	0	0	0
South Coast AQMD	2021	CHC - ME Tow Boats	Aggregate		Diesel	0.002118974	0.002563959	0.003051323	0.01933499	0.020548974	0.404311424	0.000463566	0.00042648	3.67449E-06	2.34085E-05	93050.29087	0	0	0
South Coast AQMD	2021	CHC - ME Tug Boats	Aggregate		Diesel	0.152004178	0.183925055	0.218886016	1.36414543	1.633476081	28.0747145	0.047790395	0.043967164	0.000255005	0.001625449	6461257.813	0	0	0
South Coast AQMD	2021	CHC - ME Work Boats	Aggregate		Diesel	0.006048821	0.007319074	0.008710303	0.039742674	0.076104704	0.906309368	0.003143633	0.002892143	8.19781E-06	5.24728E-05	208582.6548	0	0	0
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	50	Diesel	0.000375907	0.000454847	0.000541305	0.003351802	0.00236859	0.320976578	3.96339E-05	3.64632E-05	2.95631E-06	2.61977E-06	10413.7316	7315.427302	2.236089393	329194.2
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	75	Diesel	0.001043034	0.001262071	0.001501969	0.00989487	0.010925969	1.4344083	0.000203527	0.000187245	1.32305E-05	1.17074E-05	46537.79757	21923.57973	6.861697744	1470236
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	100	Diesel	0.00079047	0.000956469	0.001138277	0.01192288	0.005086311	1.782702024	0.000110365	0.000101536	1.64583E-05	1.45502E-05	57837.80389	21683.0554	7.456379606	1819043
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	175	Diesel	0.002451586	0.002966419	0.003530284	0.032417588	0.02373136	4.856456247	0.000341433	0.000314118	4.48268E-05	3.96377E-05	157562.3745	40151.15785	13.36248114	5563201
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	300	Diesel	0.004262217	0.005157283	0.006137592	0.026250731	0.041507912	9.715905025	0.000508569	0.000467884	8.97005E-05	7.92999E-05	315221.8384	45396.59144	15.57133417	11143045
South Coast AQMD	2021	CHE - Port Construction Equipment	Aggregate	600	Diesel	0.015246943	0.018448801	0.021955598	0.098280203	0.14539345	40.5650587	0.001570513	0.001444872	0.000374587	0.000331087	1316088.655	121576.8453	41.49176252	45880341
South Coast AQMD	2021	CHE - Port Container Handling Equipment	Aggregate	175	Diesel	0.006477998	0.007838377	0.009328317	0.099400754	0.056497457	15.60188865	0.000694724	0.000639146	0.000144053	0.000127341	506186.0949	108750.9964	45.04255139	16547725
South Coast AQMD	2021	CHE - Port Container Handling Equipment	Aggregate	300	Diesel	0.034801115	0.042109349	0.050113605	0.252013089	0.303485137	114.0767084	0.003219524	0.002961962	0.001053652	0.000931079	3701093.171	480275.531	197.7922821	1.22E+08
South Coast AQMD	2021	CHE - Port Container Handling Equipment	Aggregate	600	Diesel	0.035227139	0.042624838	0.05072708	0.254024965	0.254753286	123.5058293	0.003113325	0.002864259	0.001140816	0.001008038	4007010.615	393376.7281	159.4790181	1.31E+08
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	50	Diesel	0.000258821	0.000313173	0.000372702	0.003320894	0.002756328	0.408623516	6.32097E-05	5.81529E-05	3.77016E-06	3.33513E-06	13257.33995	18060.11189	19.73381452	763323.9
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	75	Diesel	0.000287279	0.000347607	0.000413681	0.004665989	0.004414098	0.761713196	8.77584E-05	8.07377E-05	7.0338E-06	6.217E-06	24712.94578	20943.28328	22.7655423	1424818
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	100	Diesel	0.000857155	0.001037157	0.001234303	0.024964423	0.003938564	4.242400832	0.000151316	0.000139211	3.91974E-05	3.46259E-05	137640.0228	92443.88535	102.7687833	7966986
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	175	Diesel	0.002449667	0.002964097	0.00352752	0.059189195	0.023031846	10.08013807	0.000411259	0.000378358	9.31224E-05	8.22727E-05	327038.9783	143367.0227	154.2788479	21061793
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	300	Diesel	0.001199677	0.001451609	0.001727535	0.011285329	0.010010047	5.58269178	0.00014898	0.000137062	5.15788E-05	4.55652E-05	181124.2866	55030.59885	61.67348073	11691050
South Coast AQMD	2021	CHE - Port Forklift	Aggregate	600	Diesel	0.000279547	0.000338252	0.000402548	0.003288029	0.001841156	1.734727533	3.46675E-05	3.18941E-05	1.603E-05	1.41586E-05	56281.32434	11282.57488	12.51102858	3637092
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	50	Diesel	0.001420093	0.001718312	0.002044933	0.012018966	0.00889637	1.194237721	0.00017063	0.00015698	1.09987E-05	9.74721E-06	38745.72763	28890.67185	13.59748937	1318456
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	75	Diesel	0.000641822	0.000776605	0.000924224	0.006620762	0.007165503	0.997793831	0.000142603	0.000131195	9.20584E-06	8.14386E-06	32372.32196	17302.00259	9.013405058	1094150
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	100	Diesel	0.001268477	0.001534857	0.001826607	0.01685168	0.008096551	2.565017573	0.000188226	0.000173168	2.36768E-05	2.09353E-05	83219.17031	34138.41422	16.93589404	2848412
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	175	Diesel	0.002538971	0.003072155	0.003656119	0.032764169	0.025718535	5.113238876	0.000424555	0.00039059	4.71983E-05	4.17336E-05	165893.4041	46606.89408	24.65822377	6186687
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	300	Diesel	0.001727791	0.002090627	0.002488019	0.01095153	0.017246563	4.311628255	0.000212503	0.000195503	3.98113E-05	3.51909E-05	139886.0303	23981.5438	12.00924595	5443203
South Coast AQMD	2021	CHE - Port Other General Industrial Equipment	Aggregate	600	Diesel	0.003272151	0.003959303	0.004711898	0.033702853	0.0342187	6.07622352	0.000496494	0.000456774	5.60795E-05	4.95933E-05	197136.3803	15959.94643	7.252521344	7415061
South Coast AQMD	2021	CHE - Port RTG Crane	Aggregate	300	Diesel	0.000829986	0.001004283	0.001195179	0.005751623	0.007107438	2.086620521	9.35256E-05	8.60435E-05	1.92669E-05	1.70307E-05	67698.10481	28545.90701	15.70570589	6541239
South Coast AQMD	2021	CHE - Port RTG Crane	Aggregate	600	Diesel	0.009973955	0.012068485	0.014362495	0.066599889	0.079159958	31.53887764	0.000868605	0.000799116	0.000291293	0.000257416	1023244.151	198946.9454	105.0654792	98974018
South Coast AQMD	2021	CHE - Port RTG Crane	Aggregate	750	Diesel	0.010743902	0.013000122	0.015471219	0.072131421	0.082088034	34.95818869	0.000910089	0.000837282	0.000322883	0.000285324	1134179.933	166743.7592	87.3274613	1.1E+08
South Coast AQMD	2021	CHE - Port RTG Crane	Aggregate	9999	Diesel	0.006747172	0.008164078	0.009715927	0.03773649	0.106573145	18.27121145	0.00145245	0.001336254	0.000168724	0.000149127	592789.3333	59707.38166	32.11296875	57289233
South Coast AQMD	2021	CHE - Port Yard Tractor	Aggregate	175	Diesel	0.020675346	0.025017168	0.029772498	1.708876329	0.129096417	275.2604827	0.004757356	0.004376767	0.002544299	0.002246639	8930523.215	2555153.218	1079.640638	4.43E+08
South Coast AQMD	2021	CHE - Port Yard Tractor	Aggregate	300	Diesel	0.018225162	0.022052446	0.026244234	0.543761185	0.099780702	255.7923256	0.003642847	0.00335142	0.00236438	0.002087743	8298900.301	1867802.128	741.2102392	4.11E+08
South Coast AQMD	2021	CHE - Port Yard Tractor	Aggregate	600	Diesel	0.000149425	0.000180804	0.000215172	0.004170382	0.000959367	2.057943078	2.94384E-05	2.70833E-05	1.90222E-05	1.67967E-05	66767.69674	10340.80695	4.766625333	3309058
South Coast AQMD	2021	CHE - Rail Container Handling Equipment	Aggregate	175	Diesel	0.001856084	0.002245862	0.002672762	0.023399747	0.018990015	3.650127453	0.000268059	0.000246614	3.36916E-05	2.97918E-05	118424.3653	26263.7804	14.45828069	3893998
South Coast AQMD	2021	CHE - Rail Container Handling Equipment	Aggregate	300	Diesel	0.003923652	0.004747619	0.005650059	0.02349268	0.03766047	9.569807736	0.000408008	0.000375367	8.83599E-05	7.81075E-05	310481.8727	46950.27495	12.35649257	10171094
South Coast AQMD	2021	CHE - Rail Container Handling Equipment	Aggregate	600	Diesel	0.001049208	0.001269542	0.00151086	0.006881206	0.010275244	2.292298989	0.00014076	0.000129499	2.1162E-05	1.87094E-05	74371.1162	6981.139645	3.161165111	2418746
South Coast AQMD	2021	CHE - Rail Forklift	Aggregate	75	Diesel	4.17058E-05	5.0464E-05	6.00563E-05	0.000517485	0.000553586	0.081227328	2.01932E-05	1.85778E-05	7.49736E-07	6.62967E-07	2635.331216	2450.203308	1.907831099	152729.3
South Coast AQMD	2021	CHE - Rail Forklift	Aggregate	100	Diesel	0.000126248	0.00015276	0.000181797	0.002701955	0.000477706	0.418119834	1.80082E-05	1.65675E-05	3.86194E-06	3.41264E-06	13565.43755	9417.982025	3.93246463	775309.7
South Coast AQMD	2021	CHE - Rail Forklift	Aggregate	175	Diesel	0.00049183	0.000595114	0.000708235	0.009715481	0.003351994	1.489168834	4.71984E-05	4.34226E-05	1.37533E-05	1.21544E-05	48314.4428	19154.05996	6.115833946	3098488
South Coast AQMD	2021	CHE - Rail Forklift	Aggregate	300	Diesel	3.31381E-05	4.0097E-05	4.77188E-05	0.000247765	0.00033265	0.111557246	5.98414E-06	5.50541E-06	1.03041E-06	9.10515E-07	3619.351977	971.6300641	0.756551935	233191.2
South Coast AQMD	2021	CHE - Rail Other General Industrial Equipment	Aggregate	50	Diesel	0.00061823	0.000748059	0.000890251	0.004565094	0.003307452	0.408339666	9.00788E-05	8.28725E-05	3.75676E-06	3.33281E-06	13248.13076	9678.012332	2.67956639	451640.6
South Coast AQMD	2021	CHE - Rail Other General Industrial Equipment	Aggregate	175	Diesel	1.27558E-05	1.54346E-05	1.83684E-05	0.000197624	0.00017445	0.035042813	2.25117E-06	2.07108E-06	3.23606E-07	2.86015E-07	1136.925477	374.6852554	0.822660607	43088.8
South Coast AQMD	2021	CHE - Rail Other General Industrial Equipment	Aggregate	300	Diesel	0.000279088	0.000337697	0.000401887	0.001748262	0.002985029	0.662753097	3.72707E-05	3.4289E-05	6.11911E-06	5.4093E-06	21502.29433	3913.376794	2.89115096	897082.7
South Coast AQMD	2021	CHE - Rail RTG Crane	Aggregate	300	Diesel	0.008249169	0.009981494	0.011878803	0.050243355	0.076918936	20.60045191	0.000743568	0.000684083	0.000190214	0.000168138	668358.9749	241619.182	51.10742664	64584281
South Coast AQMD	2021	CHE - Rail RTG Crane	Aggregate	600	Diesel	0.003086805	0.003735034	0.004445	0.018623246	0.026229837	8.689078479	0.000252362	0.000232173	8.02422E-05	7.09191E-05	281907.582	81498.43907	20.16726589	27287797
South Coast AQMD	2021	CHE - Rail Yard Tractor	Aggregate	175	Diesel	0.015285997	0.018496057	0.022011836	1.009130847	0.068362825	162.0358925	0.002744572	0.002525006	0.001497644	0.001322515	5257076.081	1632669.64	387.2883083	2.6E+08
South Coast AQMD	2021	CHE - Rail Yard Tractor	Aggregate	300	Diesel	0.005622179	0.006802837	0.008095938	0.137122559	0.0258551	66.11933459	0.000994242	0.000914702	0.000611137	0.000539657	2145168.993	531581.0972	141.8071036	1.06E+08
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	50	Diesel	0.00061382	0.000742722	0.000883901	0.004754152	0.004844009	0.625950303	0.000304115	0.000279786	5.76881E-06	5.10892E-06	20308.26822	17573.27857	49.95691984	690022.5
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	75	Diesel	0.00034978	0.000423233	0.000503683	0.00473976	0.005882929	0.711288905	0.000328976	0.000302658	6.56573E-06	5.80544E-06	23076.98517	12290.01485	30.50001422	895066.5
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	100	Diesel	0.000981698	0.001187855	0.001413646	0.020059947	0.014532011	3.192574913	0.00064282	0.000591394	2.94875E-05	2.60574E-05	103579.5771	47944.17852	122.0000569	4021909
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	175	Diesel	0.001094064	0.001323817	0.001575452	0.02509765	0.013684633	4.518445938	0.000602821	0.000554595	4.17425E-05	3.68789E-05	146596.0023	37675.6844	120.4224699	5622045
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	300	Diesel	0.0013781	0.001667501	0.001984464	0.013171923	0.019673347	6.436351337	0.000599015	0.000551094	5.94659E-05	5.25326E-05	208820.3308	38990.71183	121.4741946	8105856
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	600	Diesel	0.002026352	0.002451885	0.002917946	0.022160808	0.025245116	11.74124631	0.000838283	0.00077122	0.000108493	9.58305E-05	380931.8059	35623.29169	103.0690136	14822349
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	750	Diesel	0.000734207	0.00088839	0.001057258	0.009354801	0.008235549	5.121596085	0.000307568	0.000282962	4.73297E-05	4.18018E-05	166164.5445	9861.815214	19.98276794	6351089
South Coast AQMD	2021	ConstMin - Bore/Drill Rigs	Aggregate	9999	Diesel	0.000969815	0.001173476	0.001396533	0.006407327	0.025816093	3.383597063	0.000628269	0.000578008	3.12539E-05	2.76165E-05	109777.0803	2274.433453	3.155173885	4231268
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	25	Diesel	1.91471E-05	2.31679E-05	2.75718E-05	0.000108231	9.70727E-05	0.011968639	7.37114E-06	6.78144E-06	1.10082E-07	9.76864E-08	388.3092975	937.9999156	1.981318883	23450
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	50	Diesel	0.000601951	0.00072836	0.000866809	0.002553382	0.00204028	0.193922404	0.000216927	0.000199573	1.77485E-06	1.58277E-06	6291.598819	9123.503154	21.13406809	376158.4
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	75	Diesel	0.000160556	0.000194272	0.0002312	0.000672369	0.001466302	0.078759221	0.000136198	0.000125302	7.23351E-07	6.42822E-07	2555.256191	2449.387697	6.604396278	170403.6
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	100	Diesel	0.004544456	0.005498792	0.006544016	0.034385883	0.048605211	4.425942549	0.003362805	0.00309378	4.07837E-05	3.61239E-05	143594.8317	109798.9297	250.9670586	9674891
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	175	Diesel	0.010387373	0.012568722	0.014957818	0.088818928	0.128353722	13.37142198	0.006886431	0.006335516	0.000123314	0.000109136	433821.06	198591.2842	439.1923525	29082336
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	300	Diesel	0.013017825	0.015751568	0.018745668	0.078258191	0.186729379	23.31812657	0.00755807	0.006953425	0.000215197	0.000190319	756530.9362	230022.4833	492.6879624	50800606
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	600	Diesel	0.016964366	0.020526883	0.024428687	0.164647702	0.239447753	40.35583213	0.009507024	0.008746462	0.000372601	0.000329379	1309300.53	238703.8291	488.064885	88018036
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	750	Diesel	0.000641539	0.000776262	0.000923816	0.006276033	0.008207247	0.630891178	0.000424238	0.000390299	5.81366E-06	5.14925E-06	20468.56947	2138.460857	5.283517023	1369314
South Coast AQMD	2021	ConstMin - Cranes	Aggregate	9999	Diesel	0.00269052	0.003255529	0.003874349	0.027679577	0.037083477	2.228552041	0.001771881	0.00163013	2.05234E-05	1.81891E-05	72302.91666	5171.675211	10.56703405	4852082
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	50	Diesel	0.001855603	0.002245279	0.002672068	0.007993932	0.006108144	0.627988649	0.000642412	0.000591019	5.7504E-06	5.12556E-06	20374.40013	19770.22897	58.61580733	831867.1
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	75	Diesel	0.000235516	0.000284975	0.000339143	0.00092382	0.002256838	0.077134475	0.000165467	0.00015223	7.06081E-07	6.29561E-07	2502.543086	1604.780092	8.7923711	112146.3
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	100	Diesel	0.028659544	0.034678049	0.041269744	0.207529998	0.291784702	27.67585453	0.024049096	0.022125168	0.000255017	0.000225887	897912.6207	461822.6223	997.6410408	40371105
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	175	Diesel	0.020732304	0.025086088	0.029854518	0.190122692	0.25285601	30.26170689	0.014086325	0.012959419	0.000279163	0.000246992	981807.7526	296640.1258	662.3586228	44240463
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	300	Diesel	0.019503654	0.023599421	0.028085261	0.124232614	0.289454409	31.87377567	0.011550089	0.010626082	0.000294104	0.000260149	1034109.549	226581.052	515.2329464	46637994
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	600	Diesel	0.04357134	0.052721321	0.062742729	0.343966786	0.61223295	110.0935632	0.023297193	0.021433418	0.001016562	0.000898569	3571864.413	418768.1923	890.9602714	1.61E+08
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	750	Diesel	0.001160896	0.001404684	0.001671691	0.006926992	0.022145037	2.016147089	0.000639602	0.000588434	1.86055E-05	1.64555E-05	65411.67192	4719.707884	10.55084532	2952192
South Coast AQMD	2021	ConstMin - Crawler Tractors	Aggregate	9999	Diesel	0.003835972	0.004641526	0.0055238	0.020591958	0.076636823	6.412432029	0.002123219	0.001953361	5.9171E-05	5.23374E-05	208044.2951	9621.401139	17.5847422	9368169
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	25	Diesel	4.24914E-05	5.14146E-05	6.11876E-05	0.000144382	9.80703E-05	0.007597152	1.36681E-05	1.25746E-05	6.89647E-08	6.20069E-08	246.4812165	448.9107584	1.761990512	11222.77
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	50	Diesel	0.019822736	0.023985511	0.02854474	0.190512455	0.167382086	25.10881903	0.008604608	0.007916239	0.000231549	0.000204935	814627.9812	1036383.757	1433.085616	37088692
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	75	Diesel	0.000543832	0.000658037	0.000783118	0.011664629	0.010005211	1.820808345	0.000440062	0.000404857	1.6818E-05	1.48612E-05	59074.12148	40242.82708	51.68505502	2995233
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	100	Diesel	0.013445052	0.016268513	0.019360875	0.205604438	0.165935695	30.78971426	0.009447285	0.008691502	0.000284263	0.000251302	998938.3705	620899.2783	981.4287152	50801206
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	175	Diesel	0.023480461	0.028411358	0.033811864	0.402834627	0.26657872	68.81594673	0.012978104	0.011939855	0.000635533	0.000561667	2232657.605	773581.3202	1323.254875	1.13E+08
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	300	Diesel	0.022975333	0.027800153	0.033084479	0.1875247	0.294887165	88.10938526	0.009095568	0.008367922	0.000813926	0.000719137	2858611.97	661179.9015	1148.230484	1.45E+08
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	600	Diesel	0.034455441	0.041691084	0.049615835	0.317458813	0.3828129	154.9086238	0.012871469	0.011841751	0.001431173	0.001264343	5025839.698	754351.7604	1186.994275	2.55E+08
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	750	Diesel	0.000801239	0.000969499	0.001153784	0.006054526	0.011969107	2.181526191	0.000368785	0.000339282	2.01453E-05	1.78053E-05	70777.21476	5595.801906	9.984612902	3549053
South Coast AQMD	2021	ConstMin - Excavators	Aggregate	9999	Diesel	0.00110908	0.001341987	0.001597075	0.009684423	0.02706674	4.336610891	0.000510144	0.000469332	4.00608E-05	3.53948E-05	140696.5644	5910.105746	8.80995256	7115092
South Coast AQMD	2021	ConstMin - Graders	Aggregate	25	Diesel	1.34538E-05	1.62791E-05	1.93735E-05	6.32187E-05	4.99365E-05	0.004827903	6.00188E-06	5.52173E-06	4.42327E-08	3.94047E-08	156.6359825	266.5357149	1.180419517	6663.393
South Coast AQMD	2021	ConstMin - Graders	Aggregate	50	Diesel	0.000542983	0.00065701	0.000781896	0.002233841	0.001602081	0.161250833	0.000184144	0.000169412	1.47455E-06	1.31611E-06	5231.605693	5962.403942	17.11608299	222590.3
South Coast AQMD	2021	ConstMin - Graders	Aggregate	75	Diesel	0.000215716	0.000261016	0.000310631	0.001798922	0.002157449	0.241518794	0.000149548	0.000137584	2.22649E-06	1.97124E-06	7835.811274	5086.834119	12.98461468	372143.2
South Coast AQMD	2021	ConstMin - Graders	Aggregate	100	Diesel	0.005753796	0.006962093	0.008285466	0.030688149	0.054002676	3.432087909	0.004462659	0.004105646	3.15587E-05	2.80122E-05	111350.3124	59366.83246	163.4881031	5332976
South Coast AQMD	2021	ConstMin - Graders	Aggregate	175	Diesel	0.032593857	0.039438567	0.046935154	0.280043134	0.377937506	42.09835308	0.021070601	0.019384953	0.000388242	0.000343601	1365834.703	433844.1812	929.5803694	64430604
South Coast AQMD	2021	ConstMin - Graders	Aggregate	300	Diesel	0.045839922	0.055466306	0.066009488	0.225737988	0.678635026	88.64819415	0.022372618	0.020582808	0.000818221	0.000723535	2876093.031	628054.7635	836.9174373	1.36E+08
South Coast AQMD	2021	ConstMin - Graders	Aggregate	600	Diesel	0.002026695	0.002452301	0.002918441	0.00818439	0.032159861	3.815114979	0.000988171	0.000909117	3.52118E-05	3.11385E-05	123777.2039	16565.86102	21.83776106	5833094
South Coast AQMD	2021	ConstMin - Graders	Aggregate	9999	Diesel	0.002373105	0.002871457	0.003417271	0.012039669	0.039375869	3.007512888	0.001238439	0.001139364	2.77348E-05	2.45469E-05	97575.44347	2550.746791	3.54125855	4615122
South Coast AQMD	2021	ConstMin - Off-Highway Tractors	Aggregate	25	Diesel	1.44238E-05	1.74528E-05	2.07703E-05	4.7959E-05	3.30236E-05	0.002523531	4.5401E-06	4.17689E-06	2.28986E-08	2.05967E-08	81.87319901	130.8525156	0.579512818	3271.313
South Coast AQMD	2021	ConstMin - Off-Highway Tractors	Aggregate	50	Diesel	0.013255354	0.016038979	0.01908771	0.095166559	0.079809296	10.42376818	0.005461483	0.005024564	9.59752E-05	8.50774E-05	338187.6788	358107.3507	549.3781513	13530067
South Coast AQMD	2021	ConstMin - Off-Highway Tractors	Aggregate	75	Diesel	0.003467336	0.004195477	0.004992965	0.04851916	0.042126223	7.076066808	0.002331796	0.002145253	6.53177E-05	5.77539E-05	229575.1947	143443.1446	228.9075631	10175166

South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	100	Diesel	0.004608823	0.005576675	0.006636705	0.044588151	0.051381428	6.143044135	0.004134147	0.003803415	5.66572E-05	5.01387E-05	199304.3016	110966.2045	170.3767685	8832602
South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	175	Diesel	0.00463641	0.005610056	0.00667643	0.069102757	0.057488545	11.33399714	0.002794703	0.002571126	0.000104649	9.25066E-05	367719.0552	103218.4271	152.4118711	16323473
South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	300	Diesel	0.003165217	0.003829913	0.004557913	0.022112076	0.041034878	9.718412593	0.001415011	0.00130181	8.97566E-05	7.93204E-05	315303.1937	65300.63938	101.9942559	14023142
South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	600	Diesel	0.007350286	0.008893846	0.010584412	0.063896078	0.078155316	31.7450747	0.002660731	0.002447872	0.000293278	0.000259099	1029933.988	128009.7447	187.762153	45824078
South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	750	Diesel	0.000494417	0.000598244	0.00071196	0.002826109	0.004600976	1.400935632	0.000229521	0.000211159	1.29375E-05	1.14342E-05	45451.81373	3219.626146	4.636102543	2051252
South Coast AQMD	2021 ConstMin - Off-Highway Tractors	Aggregate	9999	Diesel	0.000680657	0.000823595	0.000980146	0.004252556	0.011987292	1.760616941	0.000317968	0.000292531	1.62574E-05	1.43699E-05	57121.27766	1551.256572	2.897564089	2537181
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	25	Diesel	0.000136725	0.000165437	0.000196883	0.00062503	0.000406839	0.044383763	4.17922E-05	3.84488E-05	4.06248E-07	3.62254E-07	1439.982307	2624.117239	1.722562352	65602.93
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	50	Diesel	0.00105166	0.001272508	0.00151439	0.009018768	0.007412174	0.95970669	0.000487347	0.000448359	8.84141E-06	7.833E-06	31136.62664	49419.36209	31.00612233	1427615
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	75	Diesel	0.000151	0.00018271	0.00021744	0.002291303	0.001325785	0.301962664	5.35337E-05	4.9251E-05	2.78726E-06	2.46458E-06	9796.846085	6981.007547	4.593499605	496563.5
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	100	Diesel	0.000434245	0.000525437	0.000625313	0.005175821	0.004657294	0.695529376	0.000337645	0.000310633	6.41749E-06	5.67682E-06	22565.6846	13034.36891	10.33537411	1141423
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	175	Diesel	0.010604605	0.012831572	0.015270631	0.151119368	0.10352209	23.83718259	0.005251933	0.004831778	0.000220068	0.000194556	773371.1373	248516.4786	179.1464846	39213946
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	300	Diesel	0.019173248	0.02319963	0.027609477	0.126691719	0.196739715	48.62551533	0.007677717	0.007063499	0.000448992	0.000396875	1577601.293	379991.3645	301.4484116	80259615
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	600	Diesel	0.073620032	0.089080239	0.106012847	0.533017679	0.779767397	208.5486681	0.028649119	0.026357189	0.001925927	0.001702146	6766131.862	910127.8718	676.3928168	3.43E+08
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	750	Diesel	0.031624465	0.038265603	0.04553923	0.249816975	0.342672395	69.80315181	0.013689158	0.012594025	0.000644416	0.000569724	2264686.386	173180.0693	144.1210501	1.15E+08
South Coast AQMD	2021 ConstMin - Off-Highway Trucks	Aggregate	9999	Diesel	0.046966827	0.05682986	0.06763223	0.307868735	0.911506155	124.7464172	0.020903722	0.019231425	0.001151933	0.001018163	4047260.121	161368.9487	115.4116776	2.05E+08
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	50	Diesel	0.007935825	0.009602349	0.011427588	0.050483279	0.04662961	5.615329336	0.003629204	0.003338867	5.16784E-05	4.58316E-05	182183.1761	199587.0937	424.5773715	7598836
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	75	Diesel	0.00093073	0.001126184	0.001340252	0.005169609	0.009530441	0.586443807	0.000726046	0.000667963	5.39404E-06	4.78648E-06	19026.52345	12282.90798	40.57199647	895480.5
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	100	Diesel	0.012334362	0.014924578	0.017761481	0.118391831	0.139002979	17.04761327	0.010054898	0.009250507	0.000157244	0.00013914	553091.0378	314149.2907	708.0099103	25760928
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	175	Diesel	0.00499746	0.006046926	0.007196342	0.058168527	0.063002448	9.593831415	0.003300673	0.003036619	8.85498E-05	7.83036E-05	311261.2946	95508.49645	233.7175571	14539704
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	300	Diesel	0.005531562	0.006693191	0.00796545	0.03666861	0.081995528	12.68156579	0.003083386	0.002836716	0.000117081	0.000103505	411439.4359	87095.8109	217.1458966	19064673
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	600	Diesel	0.015416195	0.018653596	0.022199321	0.138226754	0.21365827	48.48154307	0.007676236	0.007062137	0.000447773	0.0003957	1572930.272	192329.217	435.4346664	73371659
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	750	Diesel	0.002971356	0.003595341	0.004278753	0.01997786	0.042949012	9.46535961	0.001438273	0.001323211	8.74228E-05	7.7255E-05	307093.1683	23311.00973	46.85779874	14330172
South Coast AQMD	2021 ConstMin - Other Construction Equipment	Aggregate	9999	Diesel	0.000783956	0.000948587	0.001128897	0.00586782	0.019620794	3.089817399	0.000420061	0.000386456	2.85434E-05	2.52187E-05	100245.7227	5110.835498	10.85729483	4669491
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	50	Diesel	0.001166398	0.001411341	0.001679613	0.006196358	0.005378468	0.68833501	0.000432378	0.000397788	6.32901E-06	5.6181E-06	22332.27134	24121.17072	68.77986059	936172.8
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	75	Diesel	0.001982297	0.002398579	0.002854507	0.009523728	0.017745452	1.21285279	0.001719284	0.001581742	1.1154E-05	9.89914E-06	39349.67304	25250.35419	73.36518463	1839737
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	100	Diesel	0.002326697	0.002815303	0.003350443	0.035303948	0.03246238	5.413723357	0.001829844	0.001683457	4.99828E-05	4.41861E-05	175642.2922	101280.3154	258.4976427	8212524
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	175	Diesel	0.003714489	0.004494532	0.005348865	0.052093259	0.047082967	9.103394268	0.002304122	0.002119792	8.4054E-05	7.43007E-05	295349.6014	86974.9521	228.119871	13728905
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	300	Diesel	0.001868364	0.00226072	0.002690444	0.013765088	0.033146072	7.118700362	0.000972899	0.000895067	6.57599E-05	5.81019E-05	230958.3934	48620.89292	109.4746114	10767509
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	600	Diesel	0.000306372	0.00037071	0.000441176	0.002404981	0.00456515	1.274116665	0.000157719	0.000145101	1.17706E-05	1.03992E-05	41337.312	5232.422643	12.0364756	1922110
South Coast AQMD	2021 ConstMin - Pavers	Aggregate	750	Diesel	5.03282E-05	6.08971E-05	7.24726E-05	0.000491612	0.000599329	0.266416604	2.65235E-05	2.44017E-05	2.46164E-06	2.17446E-06	8643.593327	536.4430338	1.14633101	402332.3
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	50	Diesel	0.000713828	0.000863732	0.001027912	0.006200733	0.005717038	0.857199794	0.000295048	0.000271444	7.90382E-06	6.99635E-06	27810.90329	39437.19094	84.69207729	1368401
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	75	Diesel	0.000138058	0.00016705	0.000198804	0.001058562	0.001462285	0.138198572	0.000104233	9.58946E-05	1.27357E-06	1.12796E-06	4483.700467	3641.171111	9.155900247	244519.4
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	100	Diesel	0.001897221	0.002295638	0.002731999	0.024003095	0.02249119	3.61504612	0.001424736	0.001310757	3.3366E-05	2.95055E-05	117286.1901	71341.36997	157.3670355	6382525
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	175	Diesel	0.001442869	0.001745871	0.002077731	0.022210151	0.017561087	3.809241095	0.000878572	0.000808287	3.5175E-05	3.10905E-05	123586.6322	46211.73322	100.7149027	6742435
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	300	Diesel	0.000876931	0.001061087	0.001262781	0.005996411	0.013014263	2.751805238	0.000472475	0.000434677	2.54155E-05	2.24599E-05	89279.29039	20761.65274	44.63501371	4852828
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	600	Diesel	0.000889361	0.001076127	0.00128068	0.005734075	0.013752931	2.620481519	0.000431251	0.000396751	2.4201E-05	2.1388E-05	85018.63693	11457.80157	25.17872568	4620547
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	750	Diesel	0.000101309	0.000122584	0.000145885	0.001017685	0.001217464	0.554313442	3.03482E-05	2.79204E-05	5.12186E-06	4.52423E-06	17984.08916	1529.21434	2.861218827	978279.4
South Coast AQMD	2021 ConstMin - Paving Equipment	Aggregate	9999	Diesel	3.75298E-05	4.5411E-05	5.40429E-05	0.000466325	0.001109867	0.251691809	1.80806E-05	1.66342E-05	2.32589E-06	2.05427E-06	8165.863568	527.1816229	1.144487531	444421.9
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	25	Diesel	1.22302E-05	1.47986E-05	1.76115E-05	4.07858E-05	2.87055E-05	0.002211691	3.876E-06	3.56592E-06	2.00813E-08	1.80515E-08	71.75589089	133.1237737	0.589571648	3328.094
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	50	Diesel	0.016822147	0.020354798	0.024223891	0.110447188	0.104550277	14.13396464	0.007058637	0.006493946	0.000130171	0.0001536	458560.917	594944.7884	1738.646789	21243772
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	75	Diesel	0.000342164	0.000414019	0.000492716	0.001365355	0.003347	0.11802825	0.000236482	0.000217563	1.08096E-06	9.63331E-07	3829.296574	2818.23029	12.3810046	196846.1
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	100	Diesel	0.01183121	0.014315764	0.017036943	0.144802762	0.146226688	21.97434362	0.008907395	0.008194803	0.000202809	0.000179352	712933.3782	420989.9564	1284.676621	36717588
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	175	Diesel	0.006898511	0.008347198	0.009933855	0.126595112	0.091601646	22.84471379	0.004209871	0.003873081	0.000211004	0.000186455	741171.5801	265858.826	749.935136	38235713
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	300	Diesel	0.001363881	0.001650296	0.001963988	0.011072633	0.02037551	3.782936152	0.000722431	0.000664637	3.49342E-05	3.08758E-05	122733.1973	29246.62747	96.1001786	6321506
South Coast AQMD	2021 ConstMin - Rollers	Aggregate	600	Diesel	0.00053374	0.000645826	0.000768586	0.00580385	0.007784505	2.219073092	0.000256395	0.000235884	2.05004E-05	1.81118E-05	71995.38259	10557.38087	34.78472722	3689664
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	25	Diesel	1.11408E-06	1.34803E-06	1.60427E-06	2.38875E-05	3.17381E-05	0.003820188	1.04818E-06	9.64322E-07	3.52861E-08	3.11799E-08	123.9418031	214.3108806	0.68037913	5357.772
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	50	Diesel	0.000979467	0.001185155	0.001410433	0.005681146	0.00537297	0.716173463	0.000371124	0.000341434	6.59199E-06	5.84531E-06	23235.45927	21123.83232	78.24359991	1005060
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	75	Diesel	5.39452E-05	6.52737E-05	7.7681E-05	0.000219238	0.000539375	0.019630621	3.66127E-05	3.36837E-05	1.79876E-07	1.60222E-07	636.8938631	461.6517536	2.041137389	30626.1
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	100	Diesel	0.012294797	0.014876704	0.017704507	0.340547062	0.220911824	55.8937531	0.006708699	0.006172003	0.000516397	0.000456197	1813411.263	905690.8398	3239.285036	87145210
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	175	Diesel	0.005642598	0.006827544	0.008125341	0.073077705	0.061658618	12.74203471	0.004161603	0.003828675	0.000117637	0.000103999	413401.2833	159463.4261	592.6102219	19876031
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	300	Diesel	0.00016069	0.000194435	0.000231394	0.001688789	0.002685495	0.908170557	6.15869E-05	5.66599E-05	8.39167E-06	7.41237E-06	29464.59354	6735.814022	27.21516519	1416293
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	600	Diesel	5.04753E-05	6.10751E-05	7.26844E-05	0.000611983	0.000908021	0.336991889	1.94792E-05	1.79209E-05	3.11414E-06	2.75048E-06	10933.3307	1377.273867	5.443033037	529505.3
South Coast AQMD	2021 ConstMin - Rough Terrain Forklifts	Aggregate	750	Diesel	9.6127E-06	1.16314E-05	1.38423E-05	0.000106845	0.00014698	0.058098078	1.03608E-06	9.53189E-07	5.36857E-07	4.74189E-07	1884.928147	145.1783385	0.68037913	90736.46
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	50	Diesel	0.000990003	0.001197903	0.001425604	0.006171152	0.004591244	0.607589526	0.000362331	0.000333344	5.58777E-06	4.95906E-06	19712.57303	21017.07966	21.87594696	866863.3
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	75	Diesel	0.001102625	0.001334176	0.00158778	0.005027744	0.00966617	0.490657643	0.000778344	0.000716077	4.50329E-06	4.00468E-06	15918.84685	11198.17463	17.38857322	771082.9
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	100	Diesel	0.003061832	0.003704817	0.004409038	0.01909847	0.028830745	2.36429657	0.002540006	0.002336806	2.17672E-05	1.92971E-05	76706.9984	44304.44468	49.92203281	3717741
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	175	Diesel	0.002805333	0.003394453	0.00403968	0.01913524	0.033150553	2.616325888	0.001896586	0.001744859	2.41051E-05	2.13541E-05	84883.81208	28274.39354	37.58175503	4152362
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	300	Diesel	0.002957478	0.003578549	0.004258769	0.019067532	0.038099065	2.873281543	0.001841596	0.001694268	2.64762E-05	2.34513E-05	93220.45531	20875.85968	30.85069443	4555896
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	600	Diesel	0.024055418	0.029107056	0.034639802	0.230544521	0.307060233	31.85867371	0.013715837	0.01261857	0.000293828	0.000260026	1033619.582	136243.7192	189.0306186	50251332
South Coast AQMD	2021 ConstMin - Rubber Tired Dozers	Aggregate	750	Diesel	0.000348095	0.000421195	0.000501257	0.001853323	0.006205899	0.906433508	0.000173859	0.000159951	8.36998E-06	7.39819E-06	29408.23692	2211.39093	2.243686868	1438405
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	50	Diesel	0.00366765	0.004437856	0.005281415	0.021590631	0.016654281	1.964496431	0.001370023	0.001260421	1.80527E-05	1.6034E-05	63735.92321	73491.39476	86.52825668	3052328
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	100	Diesel	0.037703644	0.045621409	0.054293247	0.356712758	0.386207946	47.82577274	0.02898017	0.026661756	0.000441042	0.000390348	1551654.526	973903.5541	1075.172054	83807066
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	175	Diesel	0.061611458	0.074549864	0.088720499	0.72220379	0.671754361	113.4619875	0.036740057	0.033800853	0.001047164	0.000926061	3681149.228	1313866.931	1410.176724	1.97E+08
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	300	Diesel	0.067545603	0.081730179	0.097265668	0.392091218	0.915851917	158.9115028	0.030685098	0.02823029	0.001467189	0.001297014	5155708.7	1337946.683	1278.630388	2.76E+08
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	600	Diesel	0.091637186	0.110880995	0.131957548	0.610759471	1.094627527	218.5503539	0.041236954	0.037937998	0.002017857	0.001783779	7090625.541	1155926.439	1186.840277	3.81E+08
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	750	Diesel	0.007131229	0.008628788	0.01026897	0.060307026	0.084385627	19.11949497	0.002987863	0.002748834	0.000176555	0.000156051	620310.9578	51280.28075	54.37248562	33273134
South Coast AQMD	2021 ConstMin - Rubber Tired Loaders	Aggregate	9999	Diesel	0.006316279	0.007642698	0.009095442	0.032512318	0.131912945	14.67285114	0.003263977	0.003002859	0.000135468	0.000119758	476044.4961	26575.4494	22.80136494	25444532
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	50	Diesel	0.000129739	0.000156984	0.000186824	0.000460396	0.000329346	0.030216736	4.24626E-05	3.90656E-05	2.75477E-07	2.46625E-07	980.3487336	1116.654651	3.468415239	36123.88
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	75	Diesel	0.000689436	0.000834217	0.000992788	0.003216176	0.005963592	0.362405392	0.000529073	0.000486747	3.32993E-06	2.9579E-06	11757.84382	7052.349594	16.76400699	468412.4
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	100	Diesel	0.001368459	0.001655835	0.00197058	0.011938503	0.017372822	1.596289007	0.001291626	0.001188296	1.47174E-05	1.30287E-05	51789.83885	22868.90451	37.57449842	2068886
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	175	Diesel	0.014360333	0.017376003	0.02067888	0.138612254	0.173749847	21.41692328	0.009305191	0.008560775	0.000197579	0.000174802	694848.4894	165889.4579	375.166915	27718638
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	300	Diesel	0.015642312	0.018927197	0.022524929	0.091880716	0.211616417	25.30367902	0.009213653	0.00847656	0.000233476	0.000206525	820949.9988	147774.3304	368.8081537	33017914
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	600	Diesel	0.135785186	0.164300076	0.195530668	1.182653013	1.878318692	312.8650618	0.071575877	0.065849807	0.002888519	0.002553563	10150562.37	962569.3616	2029.600984	4.06E+08
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	750	Diesel	0.005375167	0.006503952	0.00774024	0.06121014	0.089137486	4.994098803	0.003633666	0.003342973	4.60117E-05	4.07612E-05	162028.0357	10384.69246	27.1692527	6461737
South Coast AQMD	2021 ConstMin - Scrapers	Aggregate	9999	Diesel	0.006949859	0.008409329	0.010007796	0.085981405	0.10983864	7.239737417	0.004393246	0.004041786	6.67265E-05	5.90898E-05	234885.3073	5894.57908	15.02979937	9414097
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	50	Diesel	0.006124056	0.007410107	0.00881864	0.067639144	0.064765427	10.69417284	0.002289028	0.002105906	9.86892E-05	8.72844E-05	346960.6602	374581.0809	1203.821574	16318309
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	75	Diesel	0.015506352	0.018762685	0.022329146	0.346123595	0.248726147	55.80689428	0.009982873	0.009184243	0.000515497	0.000455488	1810593.225	1347656.352	3817.373718	94997169
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	100	Diesel	0.000307499	0.000372074	0.000442799	0.006165476	0.005623783	0.950379223	0.000366287	0.000336984	8.7775E-06	7.75687E-06	30834.00723	21611.49658	67.44265637	1640579
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	175	Diesel	9.42508E-05	0.000114043	0.000135721	0.002078631	0.001219485	0.383591496	5.09375E-05	4.68625E-05	3.54367E-06	3.13082E-06	12445.20364	4300.332716	16.11461701	654720.6
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	300	Diesel	5.5872E-05	6.76052E-05	8.04557E-05	0.000658246	0.000832658	0.356377005	2.37364E-05	2.18375E-05	3.29321E-06	2.9087E-06	11562.25944	2958.752892	10.14624034	606619.8
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	600	Diesel	2.52496E-05	3.0552E-05	3.63594E-05	0.000192925	0.000404444	0.103064611	1.74403E-05	1.60451E-05	9.52126E-07	8.41199E-07	3343.817792	370.6021613	1.193675334	175220.7
South Coast AQMD	2021 ConstMin - Skid Steer Loaders	Aggregate	9999	Diesel	6.61286E-05	8.00156E-05	9.52252E-05	0.000449383	0.001196536	0.139512164	3.95555E-05	3.6391E-05	1.28788E-06	1.13868E-06	4526.318501	237.1853833	1.193675334	237185.4
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	50	Diesel	6.92429E-05	8.37839E-05	9.97097E-05	0.00065008	0.000692474	0.099076242	3.37184E-05	3.10209E-05	9.13932E-07	8.08647E-07	3214.419573	5090.87263	21.11675045	182876.4
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	75	Diesel	5.49687E-05	6.65122E-05	7.9155E-05	0.000470641	0.000802445	0.066491175	4.81621E-05	4.43092E-05	6.13095E-07	5.42692E-07	2157.232946	2043.562344	8.121827098	137747
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	100	Diesel	0.000259246	0.000313687	0.000373314	0.003725447	0.003467837	0.576821095	0.000187349	0.000172361	5.32522E-06	4.70794E-06	18714.32518	13453.40116	50.35532801	1196884
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	175	Diesel	0.000225684	0.000273077	0.000324985	0.003062572	0.00316153	0.53341804	0.000154425	0.000142071	4.92494E-06	4.35369E-06	17306.16086	8198.089918	31.94585325	1109558
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	300	Diesel	0.000367841	0.000445088	0.000529691	0.002852012	0.006461492	1.05182146	0.000212887	0.000195856	9.71358E-06	8.58483E-06	34125.18889	9589.399489	39.52622521	2188330
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	600	Diesel	0.000638752	0.00077289	0.000919803	0.006751121	0.009430232	3.327875413	0.000340334	0.000313108	3.07487E-05	2.71617E-05	107969.2528	17050.2665	60.64297566	6925018
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	750	Diesel	0.000349815	0.000423277	0.000503734	0.003178748	0.005398241	1.656735028	0.0002095	0.00019274	1.53068E-05	1.3522E-05	53750.94342	5422.195032	18.40947476	3452256
South Coast AQMD	2021 ConstMin - Surfacing Equipment	Aggregate	9999	Diesel	0.000151293	0.000183065	0.000217862	0.001173324	0.003879482	0.545643309	8.43645E-05	7.76153E-05	5.0402E-06	4.45347E-06	17702.79625	1296.558699	4.873096259	1135569
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	50	Diesel	0.011177397	0.01352465	0.016095452	0.065453417	0.053799245	6.518907537	0.004567279	0.004201897	5.99352E-05	5.32064E-05	211498.7757	226571.0283	324.2745519	8077800
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	75	Diesel	0.001457813	0.001763954	0.002099251	0.012715055	0.015543989	1.74680332	0.001102267	0.001014085	1.61063E-05	1.42572E-05	56673.10995	33051.54379	57.393726	2402688
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	100	Diesel	0.005453738	0.006599023	0.007853383	0.058669231	0.059724915	8.328384464	0.004433676	0.004078982	7.68364E-05	6.79752E-05	270205.2619	145046.306	206.6174136	11471641
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	175	Diesel	0.001510264	0.00182742	0.00217478	0.015420648	0.017604942	2.513154285	0.000889042	0.000817918	2.319E-05	2.0512E-05	81536.52304	21642.12599	30.41867478	3459112
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	300	Diesel	0.000438567	0.000530666	0.000631536	0.003183131	0.006053301	1.509263511	0.000192981	0.000177543	1.39407E-05	1.23184E-05	48966.39245	9906.132401	13.77449424	2077354
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	600	Diesel	0.000165187	0.000199876	0.000237869	0.002703266	0.002278433	0.203824285	0.000115037	0.000105834	1.8795E-06	1.66359E-06	6612.854443	850.1338115	1.14787452	280544.2
South Coast AQMD	2021 ConstMin - Sweepers/Scrubbers	Aggregate	9999	Diesel	0.000105988	0.000128245	0.000152622	0.000527351	0.0021145	0.261883323	6.09805E-05	5.61021E-05	2.41806E-06	2.13746E-06	8496.516011	425.0669058	0.57393726	360456.7
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	50	Diesel	0.022922452	0.027736167	0.033008331	0.179840472	0.15506466	21.14022444	0.009336211	0.008589314	0.000194764	0.000172544	685871.3001	860823.4062	1684.785388	32643549
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	75	Diesel	0.00759154	0.009185763	0.010931817	0.030556442	0.072090807	2.995737902	0.005773089	0.005311242	2.74693E-05	2.44508E-05	97193.41701	71162.44431	317.5849808	5109654
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	100	Diesel	0.148722123	0.179953768	0.214159857	2.252209207	1.842612731	336.9350878	0.107115714	0.098546457	0.00311067	0.002750019	10931487.86	6880011.414	11121.93169	5.72E+08
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	175	Diesel	0.02053828	0.024851319	0.029575123	0.347536515	0.231887226	58.80477856	0.011705654	0.010769202	0.000543063	0.000479957	1907856.278	702109.9605	1279.732455	1.01E+08
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	300	Diesel	0.012189404	0.014749179	0.017552742	0.084816578	0.168311517	35.43805157	0.00577434	0.005312393	0.000327277	0.000289241	1149748.555	293119.761	533.0261785	60383898
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	600	Diesel	0.014305506	0.017309662	0.020599928	0.125090979	0.172547839	50.07908842	0.006247659	0.005747847	0.000462577	0.000408739	1624760.872	254532.2911	468.4525226	85981057
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	750	Diesel	0.000223841	0.000270847	0.000322331	0.001946025	0.002242828	0.94638334	5.37754E-05	4.94733E-05	8.74307E-06	7.72425E-06	30704.36522	2524.426308	4.69626589	1643764
South Coast AQMD	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregate	9999	Diesel	0.004627005	0.005598676	0.006662887	0.032676525	0.10589582	16.53458035	0.002146413	0.0019747	0.000152732	0.000134953	536446.2498	15207.53113	24.65539592	28145238
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	50	Diesel	0.008490492	0.010273495	0.012226308	0.059247254	0.056620667	7.485679178	0.003978143	0.003659891	6.89541E-05	6.10971E-05	242864.6169	210362.7203	552.4570494	8391299
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	75	Diesel	0.00057168	0.000691733	0.00082322	0.003562435	0.005814369	0.431660869	0.000392118	0.000360749	3.97377E-06	3.52316E-06	14004.7615	7601.550456	28.25064457	536682.1
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	100	Diesel	0.00411938	0.00498445	0.005931907	0.035117389	0.046307728	4.99538201	0.003392443	0.003121047	4.60612E-05	4.07716E-05	162069.6679	74359.81954	227.8885329	6223930
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	175	Diesel	0.000711436	0.000860838	0.001024468	0.00699504	0.009046232	1.107792731	0.000463186	0.000426132	1.02208E-05	9.04166E-06	35941.11513	9698.089966	33.90077349	1385593
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	300	Diesel	0.001320923	0.001598316	0.001902128	0.007831137	0.019281048	2.632859953	0.000766759	0.000705418	2.43025E-05	2.1489E-05	85420.24161	14381.63732	46.45661552	3276268
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	600	Diesel	0.001204616	0.001457585	0.001734647	0.012795622	0.01627204	3.658592907	0.000642702	0.000591286	3.37894E-05	2.98609E-05	118699.0177	11783.28917	32.64518928	4546437
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	750	Diesel	0.000123039	0.000148878	0.000177177	0.002126328	0.001128244	1.188145805	2.01575E-05	1.85449E-05	1.09813E-05	9.69749E-06	38548.08213	2296.412445	5.022336813	1484200
South Coast AQMD	2021 ConstMin - Trenchers	Aggregate	9999	Diesel	0.000177909	0.00021527	0.000256189	0.002570264	0.002465537	0.097686317	0.000114204	0.000105068	8.97821E-07	7.97303E-07	3169.32498	141.7538547	0.627792102	121908.3
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	50	Diesel	0.003195766	0.003866877	0.004601903	0.073041594	0.068553954	13.77769924	0.000622162	0.000572389	0.000127286	0.000112452	447002.2785	546731.325	1827.937173	25220016
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	75	Diesel	0.002708234	0.003276963	0.003899857	0.097620191	0.050321594	16.27202621	0.001145156	0.001053543	0.000150362	0.00013281	527927.97	458331.3569	1537.227014	33116931
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	100	Diesel	0.001386007	0.001677068	0.00199585	0.046973254	0.029056625	7.76842934	0.000368848	0.00033934	7.17814E-05	6.34049E-05	252038.1345	202522.8778	677.1735161	15807427
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	175	Diesel	0.000220842	0.000267219	0.000318013	0.00792714	0.00247136	1.46925598	8.41675E-05	7.74341E-05	1.35774E-05	1.19919E-05	47668.39218	22927.81652	76.77508654	2991240
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	300	Diesel	9.77293E-06	1.18252E-05	1.4073E-05	0.000158115	0.000112715	0.087799482	1.49673E-06	1.377E-06	8.11457E-07	7.16608E-07	2848.557493	777.1811054	2.587924266	178751.7
South Coast AQMD	2021 Industrial - Aerial Lifts	Aggregate	600	Diesel	5.57319E-06	6.74355E-06	8.02539E-06	0.000111493	3.07824E-05	0.062350357	1.05621E-06	9.71715E-07	5.76293E-07	5.08895E-07	2022.888655	259.0603685	0.862641422	126939.6
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	50	Diesel	0.013064929	0.015808564	0.018813497	0.087316769	0.071310788	9.272945023	0.005013651	0.004612559	8.5341E-05	7.56845E-05	300850.489	613240.4464	847.3907664	25997881
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	75	Diesel	0.002104286	0.002546186	0.003030172	0.008426886	0.020004698	0.803441239	0.001583495	0.001456816	7.36508E-06	6.55758E-06	26066.76617	34322.36276	67.9313259	2513727
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	100	Diesel	0.069926041	0.08461051	0.100693499	0.779177314	0.774746186	110.884601	0.054827343	0.050441156	0.001023085	0.000905025	3597528.761	4204105.97	5586.476152	3.47E+08
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	175	Diesel	0.017103057	0.020694699	0.024628403	0.216164727	0.195879606	35.30173556	0.010592802	0.009745378	0.000325869	0.000288128	1145325.932	780219.018	1053.285713	1.1E+08
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	300	Diesel	0.003082869	0.003730272	0.004439332	0.020435229	0.038461064	7.695490075	0.001509971	0.001389174	7.10561E-05	6.28096E-05	249671.7004	114210.2119	154.0710484	23973091
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	600	Diesel	0.000674204	0.000815787	0.000970854	0.004487936	0.007354071	1.93606295	0.000271905	0.000250152	1.78796E-05	1.58019E-05	62813.43021	16999.09697	23.81098021	6005191
South Coast AQMD	2021 Industrial - Forklifts	Aggregate	9999	Diesel	2.06343E-05	2.49675E-05	2.97134E-05	0.000289847	0.000685795	0.153767468	5.98891E-06	5.5098E-06	1.42104E-06	1.25503E-06	4988.816152	545.5524143	0.700322947	480086.1
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	25	Diesel	1.21045E-05	1.46464E-05	1.74305E-05	4.02473E-05	2.77135E-05	0.002117754	3.81006E-06	3.50526E-06	1.92166E-08	1.72848E-08	68.70820727	139.8402371	0.619317172	3496.006
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	50	Diesel	0.023269772	0.028156424	0.033508471	0.17999816	0.149915307	19.94009031	0.009786519	0.009003598	0.000183658	0.000162748	646934.2701	934963.435	1129.634521	32837302
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	75	Diesel	0.006052939	0.007324056	0.008716232	0.090482438	0.075928189	13.14027745	0.004407726	0.004055108	0.000121307	0.000107249	426321.8305	336911.4897	401.9368445	24096044
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	100	Diesel	0.003959078	0.004790485	0.005701073	0.023391444	0.035992247	2.915368935	0.003285392	0.003022561	2.68353E-05	2.37948E-05	94585.93439	67906.41915	90.42030708	5342421
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	175	Diesel	0.003180896	0.003848884	0.00458049	0.046433451	0.035202376	7.507906648	0.001860156	0.001711343	6.93189E-05	6.12785E-05	243585.7627	92728.06124	112.7157253	13767796
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	300	Diesel	0.002940666	0.003558206	0.004234559	0.019389033	0.042123033	7.910651806	0.001355936	0.001247461	7.30497E-05	6.45657E-05	256652.3858	66624.08418	82.98850102	14486182
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	600	Diesel	0.00652514	0.007895419	0.009396202	0.055757854	0.065655921	23.48915952	0.00237705	0.002186886	0.000216973	0.000191715	762079.9119	113056.6365	134.3918263	43068279
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	750	Diesel	0.001057548	0.001279634	0.00152287	0.013506265	0.010098175	3.931939503	0.000480932	0.000442457	3.6321E-05	3.2092E-05	127567.4469	11387.19051	13.62497778	7197942
South Coast AQMD	2021 Industrial - Other General Industrial Equipment	Aggregate	9999	Diesel	0.000396205	0.000479408	0.000570535	0.002667795	0.009702869	1.358928714	0.000196638	0.000180907	1.25521E-05	1.10914E-05	44088.94554	2142.352433	2.477268687	2493163
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	50	Diesel	0.001425735	0.00172514	0.002053059	0.009381415	0.00783336	0.9270103	0.000619771	0.000570189	8.5279E-06	7.56613E-06	30075.82826	37161.0448	49.46918251	1315296
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	75	Diesel	0.00019809	0.000239689	0.00028525	0.001791818	0.001915577	0.227946511	0.000153776	0.000141474	2.10154E-06	1.86047E-06	7395.473514	5163.738448	8.480431287	362639
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	100	Diesel	0.003655983	0.004423739	0.005264615	0.06579376	0.048753827	9.870774262	0.002197845	0.002022017	9.11505E-05	8.05639E-05	320246.4002	168457.3926	219.0778082	15648336
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	175	Diesel	0.003770701	0.004562549	0.00542981	0.046816852	0.038747694	7.4037396	0.00252196	0.002320203	6.83381E-05	6.04283E-05	240206.1775	86100.07275	118.726038	11733086
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	300	Diesel	0.00509473	0.006164623	0.007336411	0.027380071	0.064646234	11.73624788	0.002442659	0.002247246	0.000108355	9.57897E-05	380769.6371	78601.00327	105.2986885	18620051
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	600	Diesel	0.005563101	0.006731352	0.008010866	0.04286642	0.072400243	15.10960536	0.002590935	0.00238366	0.000139529	0.000123323	490214.5056	65517.72406	86.92442069	23938286
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	750	Diesel	0.000305205	0.000369299	0.000439496	0.001378039	0.003290819	0.666537441	0.00016395	0.000150834	6.15331E-06	5.44019E-06	21625.07321	1697.04445	2.120107822	1057824
South Coast AQMD	2021 Industrial - Other Material Handling Equipment	Aggregate	9999	Diesel	0.000133354	0.000161359	0.00019203	0.002006791	0.004767698	1.077509457	4.083E-05	3.75636E-05	9.95811E-06	8.79449E-06	34958.60766	1697.04445	2.120107822	1710055
South Coast AQMD	2021 Locomotive - Line haul	Aggregate	9999	Diesel	0.3147009	0.380788089	0.453169296	3.893025807	10.8019507	0	0.160376323	0.146600107	0.01518769	0.012180328	0	0	0	0
South Coast AQMD	2021 Locomotive - Passenger	Aggregate	9999	Diesel	0.036992598	2.60983E-05	3.10591E-05	0.488650869	0.831702885	0	0.015160767	0.013947905	0.001373584	0.001549628	0	0	0	0
South Coast AQMD	2021 Locomotive - Short line	Aggregate	9999	Diesel	0.008791429	9.66115E-07	1.14976E-06	0.064449169	0.297339217	0	0.004875219	0.004485202	0.00023747	0.00021183	0	0	0	0
South Coast AQMD	2021 Locomotive - Switcher	Aggregate	9999	Diesel	0.190258261	0.00043589	0.000518745	0.511114155	2.951034927	0	0.062332973	0.057346335	0.001701791	0.001530623	0	0	0	0
South Coast AQMD	2021 Ocean Going Vessels	Aggregate		Diesel	1.814103925	2.342446734	2.798421779	3.329958796	35.13034002	2302.131834	0.660876649	0.608006517	2.13552926	0.030870834	72664364.84	0	0	1.43E+09
South Coast AQMD	2021 OFF - Agricultural - 2-Wheel Tractors	Aggregate	25	Gasoline	0.004280618	0.003937312	0.004710559	0.15449025	0.003182104	0.28465666	0.001808623	0.001366515	8.35938E-06	7.22583E-06	20626.15	50578.05	199.09	354064.6
South Coast AQMD	2021 OFF - Agricultural - Agricultural Mowers	Aggregate	25	Gasoline	0.003408419	0.003135064	0.003750757	0.143380117	0.002576048	0.240283303	0.001812868	0.001369722	6.35792E-06	6.34865E-06	18122.25	30864.4	171.28	385615.2
South Coast AQMD	2021 OFF - Agricultural - Agricultural Tractors	Aggregate	25	Diesel	0.020506696	0.024404663	0.029529643	0.116473983	0.186117299	24.73589477	0.007045309	0.006481685	0.000334978	0.000207061	823078.65	1139143.1	2138.09	20589088
South Coast AQMD	2021 OFF - Agricultural - Agricultural Tractors	Aggregate	100	Gasoline	0.003033737	0.002790431	0.003338442	0.116255703	0.007849149	2.165473092	0.000150982	0.000114075	2.09215E-05	3.12804E-05	89289.95	18173.35	33.02	1490215
South Coast AQMD	2021 OFF - Agricultural - Agricultural Tractors	Aggregate	175	Gasoline	0.000409284	0.00037646	0.000450392	0.016018264	0.001820681	0.439976757	3.15416E-05	2.38315E-05	4.37071E-06	6.17859E-06	17636.8	2482	4.54	310250
South Coast AQMD	2021 OFF - Agricultural - Balers	Aggregate	50	Gasoline	0.000537133	0.000494055	0.000591082	0.027893844	0.001017944	0.374316037	2.5805E-05	1.94971E-05	4.551E-06	5.56354E-06	15881.15	8205.2	120.67	287182
South Coast AQMD	2021 OFF - Agricultural - Balers	Aggregate	100	Gasoline	0.000248889	0.000228928	0.000273887	0.007506758	0.00093029	0.346127213	2.41328E-05	1.82337E-05	3.34407E-06	4.75286E-06	13567.05	4190.2	61.67	268172.8
South Coast AQMD	2021 OFF - Agricultural - Combines	Aggregate	100	Gasoline	7.2615E-05	6.67913E-05	7.99084E-05	0.003342828	0.000187185	0.184855549	1.28886E-05	9.73803E-06	1.78596E-06	2.51644E-06	7183.2	1029.3	8.24	106017.9
South Coast AQMD	2021 OFF - Agricultural - Combines	Aggregate	175	Gasoline	4.63679E-05	4.26492E-05	5.1025E-05	0.004951121	0.000178053	0.159031932	1.14009E-05	8.61401E-06	1.57982E-06	2.21468E-06	6321.8	573.05	4.58	93980.2
South Coast AQMD	2021 OFF - Agricultural - Combines	Aggregate	300	Gasoline	8.45323E-06	7.77528E-06	9.30227E-06	0.001081258	0.0001001	0.033750643	2.4898E-06	1.88118E-06	3.4501E-07	4.64161E-07	1324.95	83.95	0.85	16286.3
South Coast AQMD	2021 OFF - Agricultural - Hydro Power Units	Aggregate	25	Gasoline	0.003351409	0.003082626	0.003688022	0.129218408	0.002517515	0.223854465	0.0015895	0.001200956	6.16726E-06	5.84102E-06	16673.2	31379.05	80.94	308257.1
South Coast AQMD	2021 OFF - Agricultural - Hydro Power Units	Aggregate	25	Diesel	0.000138958	0.000165372	0.0002001	0.000735788	0.001262833	0.166736649	4.74891E-05	4.369E-05	2.18672E-06	1.39478E-06	5544.35	12081.5	14.83	202414.4
South Coast AQMD	2021 OFF - Agricultural - Hydro Power Units	Aggregate	50	Gasoline	3.05425E-05	2.8093E-05	3.36101E-05	0.002418424	4.77961E-05	0.025696766	1.77151E-06	1.33848E-06	3.12426E-07	3.89998E-07	1113.25	503.7	1.13	19140.6
South Coast AQMD	2021 OFF - Agricultural - Hydro Power Units	Aggregate	100	Gasoline	2.31014E-06	2.12486E-06	2.54217E-06	0.000113052	5.87299E-06	0.005516227	3.84605E-07	2.9059E-07	5.32944E-08	7.28848E-08	208.05	62.05	0.11	4095.3
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	25	Gasoline	0.000439729	0.000404463	0.000483895	0.015483176	0.00030691	0.028492651	0.000169844	0.000128326	8.22401E-07	7.10947E-07	2029.4	4533.3	31.45	39179.1
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	25	Diesel	0.000322107	0.000383334	0.000463834	0.001714619	0.002934229	0.385880685	0.000114412	0.000105259	5.07776E-06	3.22481E-06	12818.8	22746.8	50.96	440277.6
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	50	Gasoline	2.35659E-05	2.16759E-05	2.59328E-05	0.001433677	4.08207E-05	0.017580556	1.21199E-06	9.15724E-07	2.13748E-07	2.55736E-07	730	452.6	3.74	13125.4
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	100	Gasoline	0.000144221	0.000132655	0.000158707	0.005256205	0.00045581	0.23262974	1.62195E-05	1.22547E-05	2.24753E-06	3.19287E-06	9114.05	2708.3	21.73	181456.1
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	175	Gasoline	2.20002E-05	2.02357E-05	2.42098E-05	0.001648215	0.000114924	0.052357238	3.75346E-06	2.83594E-06	5.20114E-07	7.25012E-07	2069.55	284.7	2.51	38719.2
South Coast AQMD	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregate	300	Gasoline	1.185E-05	1.08996E-05	1.30402E-05	0.001107351	0.000123086	0.034183788	2.52175E-06	1.90533E-06	3.49438E-07	4.71833E-07	1346.85	65.7	0.85	16162.2
South Coast AQMD	2021 OFF - Agricultural - Sprayers	Aggregate	25	Gasoline	0.007355416	0.006765511	0.008094186	0.256624689	0.004613564	0.451906908	0.002745849	0.002074641	1.24465E-05	1.1737E-05	33503.35	74193.55	756.38	696405.4
South Coast AQMD	2021 OFF - Agricultural - Sprayers	Aggregate	25	Diesel	3.30792E-05	3.93669E-05	4.7634E-05	0.000153753	0.000281196	0.035401559	1.29052E-05	1.18728E-05	4.49179E-07	2.95669E-07	1175.3	2149.85	19.68	40847.15
South Coast AQMD	2021 OFF - Agricultural - Sprayers	Aggregate	50	Gasoline	0.000104101	9.57518E-05	0.000114556	0.005472237	0.000195086	0.071064605	4.89913E-06	3.70156E-06	8.64016E-07	1.06131E-06	3029.5	1825	22.69	60225
South Coast AQMD	2021 OFF - Agricultural - Sprayers	Aggregate	100	Gasoline	0.000179594	0.00016519	0.000197632	0.005485807	0.000661528	0.244024733	1.7014E-05	1.2855E-05	2.35762E-06	3.35142E-06	9566.65	3069.65	38.2	208736.2
South Coast AQMD	2021 OFF - Agricultural - Sprayers	Aggregate	175	Gasoline	5.19112E-05	4.77479E-05	5.71251E-05	0.003431756	0.000337194	0.110187729	7.89929E-06	5.96835E-06	1.0946E-06	1.52802E-06	4361.75	660.65	8.6	92491
South Coast AQMD	2021 OFF - Agricultural - Swathers	Aggregate	100	Gasoline	0.000954034	0.00087752	0.001049856	0.029577222	0.003452659	1.260139689	8.786E-05	6.63831E-05	1.21747E-05	1.73607E-05	49556.05	11742.05	123.73	1033300
South Coast AQMD	2021 OFF - Agricultural - Swathers	Aggregate	175	Gasoline	0.000668923	0.000615275	0.000736109	0.043119918	0.004261691	1.377231155	9.87328E-05	7.45981E-05	1.36813E-05	1.91841E-05	54760.95	9011.85	94.8	1162529
South Coast AQMD	2021 OFF - Agricultural - Tillers	Aggregate	25	Gasoline	0.058327527	0.053649659	0.064185885	3.246593769	0.042763862	5.576017941	0.002549055	0.001925953	0.000158987	0.000144725	413117.95	865075.55	12166.3	6055529
South Coast AQMD	2021 OFF - AirGrSupp - A/C Tug Narrow Body	Aggregate	175	Gasoline	0.004366129	0.004015965	0.004804658	0.237453381	0.028345673	6.082418404	0.000436045	0.000329456	6.04225E-05	8.57663E-05	244820.1	25699.65	35.29	3340955
South Coast AQMD	2021 OFF - AirGrSupp - A/C Tug Wide Body	Aggregate	600	Gasoline	0.002506863	0.002305813	0.00275865	0.267745923	0.023985299	7.681745497	0.000566686	0.000428163	7.85254E-05	0.000107496	306848.2	8687	16.82	4343500
South Coast AQMD	2021 OFF - AirGrSupp - Air Conditioner	Aggregate	175	Gasoline	4.23534E-07	3.89567E-07	4.66073E-07	3.98536E-05	4.75453E-06	0.001299177	9.31372E-08	7.03703E-08	1.2906E-08	2.55736E-09	7.3	0	0.22	0
South Coast AQMD	2021 OFF - AirGrSupp - Air Conditioner	Aggregate	175	Nat Gas	0	0	2.1038E-07	0.000172221	2.1907E-05	0.00698177	0	0	0	0	361.35	3.65	1.53	474.5
South Coast AQMD	2021 OFF - AirGrSupp - Air Start Unit	Aggregate	175	Gasoline	4.35704E-05	4.00761E-05	4.79466E-05	0.003839612	0.0004581	0.12289275	8.8101E-06	6.65652E-06	1.22081E-06	1.70704E-06	4872.75	445.3	6.08	57889
South Coast AQMD	2021 OFF - AirGrSupp - Baggage Tug	Aggregate	100	Gasoline	0.035046889	0.032236128	0.038566963	2.576762779	0.208314816	64.47726014	0.004495509	0.003396607	0.00062294	0.000909913	2597350.95	501192.45	571.07	50119245
South Coast AQMD	2021 OFF - AirGrSupp - Baggage Tug	Aggregate	100	Nat Gas	0	0	0.001337143	0.468564426	0.056189695	10.59104052	0	0	0	0	589102.7	94520.4	113.74	9452040
South Coast AQMD	2021 OFF - AirGrSupp - Belt Loader	Aggregate	100	Gasoline	0.008482811	0.00780249	0.009334816	0.633979445	0.049985517	15.29789709	0.001066606	0.00080588	0.000147799	0.000216366	617616.5	218007.2	268.63	13080432
South Coast AQMD	2021 OFF - AirGrSupp - Belt Loader	Aggregate	100	Nat Gas	0	0	9.63962E-05	0.039826714	0.004645167	1.015891163	0	0	0	0	56031.15	16622.1	30.08	997326
South Coast AQMD	2021 OFF - AirGrSupp - Bobtail	Aggregate	100	Gasoline	0.004490764	0.004130605	0.004941812	0.330085734	0.026702237	8.269306718	0.000576556	0.00043562	7.9893E-05	0.000116691	333095.35	64272.85	73.25	6427285
South Coast AQMD	2021 OFF - AirGrSupp - Bobtail	Aggregate	100	Nat Gas	0	0	1.05707E-05	0.007288264	0.000659974	0.203867522	0	0	0	0	11179.95	1817.7	2.03	181770
South Coast AQMD	2021 OFF - AirGrSupp - Cargo Loader	Aggregate	100	Gasoline	0.002980835	0.002741772	0.003280227	0.222531063	0.017557287	5.373005241	0.000374619	0.000283045	5.19107E-05	7.59843E-05	216897.6	65648.9	91.08	4595423
South Coast AQMD	2021 OFF - AirGrSupp - Cargo Loader	Aggregate	100	Nat Gas	0	0	0.000170048	0.054638916	0.006659742	1.140438783	0	0	0	0	63820.25	15972.4	15.37	1118068
South Coast AQMD	2021 OFF - AirGrSupp - Cargo Tractor	Aggregate	100	Gasoline	0.090163818	0.082932679	0.099219781	7.76355913	0.41492526	91.28947921	0.006364922	0.004809052	0.000753695	0.00137623	3928454.85	760798.7	562.99	72275877
South Coast AQMD	2021 OFF - AirGrSupp - Cargo Tractor	Aggregate	175	Nat Gas	0	0	6.12521E-05	0.042712991	0.005379238	1.628730826	0	0	0	0	87917.55	9511.9	61.04	1480052
South Coast AQMD	2021 OFF - AirGrSupp - Cart	Aggregate	25	Gasoline	9.46815E-05	8.70881E-05	0.000104191	0.006027932	7.48867E-05	0.010315775	4.61525E-06	3.48708E-06	2.94131E-07	2.65966E-07	759.2	1306.7	8.81	15680.4
South Coast AQMD	2021 OFF - AirGrSupp - Catering Truck	Aggregate	300	Gasoline	0.012726721	0.011706038	0.01400498	0.615398126	0.072987346	14.08144899	0.001038795	0.000784868	0.000123008	0.0002001	571184.85	60057.1	59.04	12245643
South Coast AQMD	2021 OFF - AirGrSupp - Catering Truck	Aggregate	300	Nat Gas	0	0	5.81378E-05	0.031998313	0.003936245	1.078391994	0	0	0	0	58535.05	4931.15	10.9	1010886
South Coast AQMD	2021 OFF - AirGrSupp - Deicer	Aggregate	100	Gasoline	4.08428E-05	3.75672E-05	4.49451E-05	0.001362124	0.000262094	0.078147516	5.44863E-06	4.11674E-06	7.55014E-07	1.0677E-06	3047.75	365	17.11	33945
South Coast AQMD	2021 OFF - AirGrSupp - Forklift	Aggregate	50	Gasoline	0.003105105	0.002856076	0.003416979	0.287584193	0.006897777	2.215219285	0.000152715	0.000115385	2.6933E-05	3.55141E-05	101375.1	62436.9	85.82	3121845
South Coast AQMD	2021 OFF - AirGrSupp - Forklift	Aggregate	50	Nat Gas	0	0	0.000201859	0.055010709	0.014885533	4.464671	0	0	0	0	236041.85	146073	200.82	7303650
South Coast AQMD	2021 OFF - AirGrSupp - Fuel Truck	Aggregate	175	Gasoline	3.01491E-05	2.77311E-05	3.31772E-05	0.002788417	0.000336007	0.089300729	6.40191E-06	4.837E-06	8.87109E-07	1.23648E-06	3529.55	1182.6	54.79	153738
South Coast AQMD	2021 OFF - AirGrSupp - Fuel Truck	Aggregate	175	Nat Gas	0	0	1.68683E-05	0.008693189	0.001061233	0.280557765	0	0	0	0	15238.75	3912.8	6.9	547792
South Coast AQMD	2021 OFF - AirGrSupp - Generator	Aggregate	100	Gasoline	0.001092822	0.001005178	0.001202584	0.059163457	0.00385073	0.74936609	5.22476E-05	3.9476E-05	6.18684E-06	1.1214E-05	32010.5	3810.6	4.22	407734.2
South Coast AQMD	2021 OFF - AirGrSupp - Ground Power Unit	Aggregate	175	Gasoline	0.004940004	0.004543815	0.005436173	0.508607362	0.045337896	14.77730842	0.001059375	0.000800417	0.000146797	0.000206662	589916.65	57735.7	72.4	8660355
South Coast AQMD	2021 OFF - AirGrSupp - Hydrant truck	Aggregate	175	Gasoline	0.012674038	0.01165758	0.013947005	0.52853274	0.062214773	10.89493445	0.000781051	0.000590127	9.24873E-05	0.000156062	445478.85	56290.3	36.76	6839271
South Coast AQMD	2021 OFF - AirGrSupp - Lav Cart	Aggregate	25	Gasoline	5.89467E-05	5.42192E-05	6.48672E-05	0.003758154	4.6476E-05	0.006365885	2.85023E-06	2.15351E-06	1.81509E-07	1.67507E-07	478.15	803	5.44	9636
South Coast AQMD	2021 OFF - AirGrSupp - Lav Truck	Aggregate	175	Gasoline	0.00295438	0.002717439	0.003251115	0.218112328	0.019127943	5.536211983	0.000396887	0.00029987	5.49965E-05	7.80609E-05	222825.2	74894.35	61.65	9736266
South Coast AQMD	2021 OFF - AirGrSupp - Lav Truck	Aggregate	175	Nat Gas	0	0	5.81684E-06	0.003343266	0.000413168	0.115642642	0	0	0	0	6270.7	1715.5	4.46	223015
South Coast AQMD	2021 OFF - AirGrSupp - Lift	Aggregate	100	Gasoline	0.005078274	0.004670996	0.00558833	0.236935985	0.023006619	5.632387335	0.000392704	0.000296709	5.44167E-05	7.98485E-05	227927.9	48165.4	127.86	4816540
South Coast AQMD	2021 OFF - AirGrSupp - Lift	Aggregate	100	Nat Gas	0	0	1.18692E-05	0.005901242	0.000670011	0.166713834	0	0	0	0	9132.3	1616.95	4.75	161695
South Coast AQMD	2021 OFF - AirGrSupp - Maint. Truck	Aggregate	175	Gasoline	0.002580843	0.00237386	0.002840061	0.205595941	0.020846119	5.838326552	0.000418546	0.000316235	5.79977E-05	8.17819E-05	233446.7	39474.75	87.72	5131718
South Coast AQMD	2021 OFF - AirGrSupp - Other	Aggregate	50	Nat Gas	0	0	0.000216069	0.025444382	0.008584973	1.502620254	0	0	0	0	80270.8	29488.35	28.92	1474418
South Coast AQMD	2021 OFF - AirGrSupp - Other GSE	Aggregate	50	Gasoline	0.002526339	0.002323727	0.002780082	0.168054641	0.00524283	1.661779678	0.000114562	8.65577E-05	2.02042E-05	2.56478E-05	73211.7	28086.75	153.27	1404338
South Coast AQMD	2021 OFF - AirGrSupp - Passenger Stand	Aggregate	175	Gasoline	0.000949535	0.000873382	0.001044905	0.07363899	0.008834519	2.228997162	0.000159795	0.000120734	1.97272E-05	3.11129E-05	88811.8	13264.1	70.61	1659339
South Coast AQMD	2021 OFF - AirGrSupp - Passenger Stand	Aggregate	175	Nat Gas	0	0	1.80884E-07	0.000149552	1.90906E-05	0.006091231	0	0	0	0	288.35	3.65	2.57	602.25
South Coast AQMD	2021 OFF - AirGrSupp - Service Truck	Aggregate	300	Gasoline	0.015789036	0.014522756	0.017374871	0.816777956	0.09722606	19.62288924	0.00144759	0.001093735	0.000200592	0.000277894	793250.85	246564.8	292.91	44381664
South Coast AQMD	2021 OFF - AirGrSupp - Service Truck	Aggregate	300	Nat Gas	0	0	0.000179535	0.096020828	0.008875917	2.739761517	0	0	0	0	150022.3	37350.45	28.64	6723081
South Coast AQMD	2021 OFF - AirGrSupp - Sweeper	Aggregate	50	Nat Gas	0	0	1.67443E-06	0.000398444	0.000128108	0.033267133	0	0	0	0	1741.05	722.7	2.53	32521.5
South Coast AQMD	2021 OFF - AirGrSupp - Sweeper	Aggregate	100	Gasoline	0.000138962	0.000127817	0.000152919	0.006447926	0.000636318	0.156941934	1.09424E-05	8.26757E-06	1.29573E-06	2.21468E-06	6321.8	2445.5	6.74	130345.1
South Coast AQMD	2021 OFF - AirGrSupp - Water Truck	Aggregate	175	Gasoline	0.000199339	0.000183352	0.00021936	0.013926345	0.00166955	0.405613324	2.90782E-05	2.19702E-05	4.02934E-06	5.68118E-06	16216.95	5938.55	19.1	890782.5
South Coast AQMD	2021 OFF - ConstMin - Asphalt Pavers	Aggregate	25	Gasoline	0.007799443	0.007173927	0.008582811	0.326628295	0.005706849	0.533225763	0.004023033	0.003039625	1.38405E-05	1.42995E-05	40817.95	36215.3	91.34	623022.2
South Coast AQMD	2021 OFF - ConstMin - Asphalt Pavers	Aggregate	50	Gasoline	0.001228155	0.001129657	0.00135151	0.083211686	0.001770956	0.60144849	4.14633E-05	3.13278E-05	7.31252E-06	9.76529E-06	27875.05	12023.1	30.66	384739.2
South Coast AQMD	2021 OFF - ConstMin - Asphalt Pavers	Aggregate	100	Gasoline	0.000637103	0.000586007	0.000701093	0.025542892	0.001718713	0.622698544	4.3416E-05	3.28032E-05	6.01614E-06	8.81523E-06	25163.1	6588.25	16.81	401883.2
South Coast AQMD	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregate	25	Gasoline	0.002768096	0.002546094	0.00304612	0.121580035	0.002001455	0.19768325	0.001491463	0.001126883	5.07319E-06	5.30141E-06	15132.9	11563.2	93.3	192690.8
South Coast AQMD	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregate	25	Diesel	0.000328869	0.000391381	0.000473571	0.001765839	0.002987953	0.39501373	0.000112508	0.000103508	5.21331E-06	3.30745E-06	13147.3	19793.95	24.36	306800.7
South Coast AQMD	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregate	50	Gasoline	9.46265E-05	8.70374E-05	0.000104131	0.005114728	0.000171226	0.060889673	4.19768E-06	3.17158E-06	7.40307E-07	9.16814E-07	2617.05	985.5	9.52	31536
South Coast AQMD	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregate	100	Gasoline	0.000596714	0.000548858	0.000656648	0.018757146	0.002106979	0.76009579	5.29957E-05	4.00412E-05	7.34359E-06	1.04826E-05	29922.7	4675.65	43.59	411457.2
South Coast AQMD	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregate	175	Gasoline	0.000132172	0.000121572	0.000145447	0.008377613	0.000820517	0.261994725	1.87822E-05	1.4191E-05	2.60264E-06	3.65063E-06	10420.75	1142.45	10.76	143948.7

South Coast AQMD	2021 OFF - ConstMin - Cement and Mortar Mixers	Aggregate	25	Gasoline	0.109837334	0.10102838	0.120869287	3.757767673	0.073505094	6.873602366	0.038548066	0.029125205	0.000206821	0.000175412	500714.3	1295388.65	14068.45	8982311
South Coast AQMD	2021 OFF - ConstMin - Cement and Mortar Mixers	Aggregate	25	Diesel	0.000830527	0.000988396	0.001195959	0.005789415	0.007473348	1.011672571	0.00029448	0.000270921	1.51612E-05	8.47889E-06	33704.1	101970.05	339.62	1052167
South Coast AQMD	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregate	25	Gasoline	0.085008322	0.078190655	0.093546473	3.517609162	0.06506757	5.947841656	0.043779838	0.0330781	0.000163676	0.000156768	447493.65	562716.85	1980.14	5879588
South Coast AQMD	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregate	25	Diesel	2.73047E-05	3.24949E-05	3.93188E-05	0.0001342	0.000248463	0.032592334	9.28391E-06	8.5412E-06	4.13535E-07	2.6904E-07	1069.45	1438.1	2.39	25885.8
South Coast AQMD	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregate	50	Gasoline	0.001547647	0.001423525	0.001703091	0.114717399	0.002497597	1.397225258	9.63235E-05	7.27777E-05	1.69877E-05	2.09883E-05	59911.1	21644.5	35.43	757557.5
South Coast AQMD	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregate	50	Diesel	0.00045193	0.000537835	0.00065078	0.004039094	0.003662845	0.512237335	0.000166085	0.000152798	6.62195E-06	4.30648E-06	17118.5	12380.8	21.27	408566.4
South Coast AQMD	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregate	100	Gasoline	0.000636024	0.000585015	0.000699906	0.031267164	0.001598716	1.493205574	0.00010411	7.86608E-05	1.44264E-05	2.04678E-05	58425.55	12391.75	20.3	817855.5
South Coast AQMD	2021 OFF - ConstMin - Cranes	Aggregate	50	Gasoline	0.000431134	0.000396557	0.000474437	0.027522683	0.000641845	0.184606841	1.27266E-05	9.61568E-06	2.24448E-06	3.04326E-06	8687	4478.55	10.76	165706.4
South Coast AQMD	2021 OFF - ConstMin - Cranes	Aggregate	100	Gasoline	0.000895481	0.000823664	0.000985423	0.0331792	0.002461896	0.730131483	5.09065E-05	3.84627E-05	7.05409E-06	1.04097E-05	29714.65	8979	21.67	664446
South Coast AQMD	2021 OFF - ConstMin - Cranes	Aggregate	175	Gasoline	3.88277E-05	3.57137E-05	4.27275E-05	0.001701795	0.000184216	0.047979649	3.43963E-06	2.59883E-06	4.76628E-07	6.8793E-07	1963.7	365	0.85	45625
South Coast AQMD	2021 OFF - ConstMin - Crushing/Proc. Equipment	Aggregate	25	Gasoline	0.001247738	0.001147669	0.00137306	0.052996259	0.000946792	0.088020968	0.000664093	0.000501759	2.35968E-06	2.33615E-06	6668.55	6767.1	23.44	79632.05
South Coast AQMD	2021 OFF - ConstMin - Crushing/Proc. Equipment	Aggregate	100	Gasoline	0.00056338	0.000518197	0.000619965	0.019432401	0.001749309	0.576977123	4.02282E-05	3.03947E-05	5.5744E-06	8.07104E-06	23038.8	3018.55	12.5	289780.8
South Coast AQMD	2021 OFF - ConstMin - Dumpers/Tenders	Aggregate	25	Gasoline	0.010079188	0.009270837	0.011091531	0.366900473	0.007135092	0.647043542	0.004270439	0.003226554	1.8455E-05	1.67763E-05	47888	139809.6	937.5	1216731
South Coast AQMD	2021 OFF - ConstMin - Dumpers/Tenders	Aggregate	25	Diesel	8.4778E-05	0.000100893	0.00012208	0.000416629	0.000771553	0.101183849	2.91654E-05	2.68322E-05	1.28383E-06	8.41094E-07	3343.4	9701.7	14.6	155227.2
South Coast AQMD	2021 OFF - ConstMin - Dumpers/Tenders	Aggregate	100	Gasoline	5.09187E-05	4.6835E-05	5.60329E-05	0.001628474	0.000175907	0.062583149	4.36345E-06	3.29683E-06	6.0464E-07	8.61831E-07	2460.1	967.25	7.69	63838.5
South Coast AQMD	2021 OFF - ConstMin - Excavators	Aggregate	25	Diesel	0.000594224	0.000707176	0.000855683	0.002920562	0.005407234	0.709297132	0.000202043	0.00018588	8.99964E-06	5.9299E-06	23571.7	31536	22.57	725328
South Coast AQMD	2021 OFF - ConstMin - Other Construction Equipment	Aggregate	25	Diesel	0.00191608	0.002280294	0.002759156	0.013529937	0.017308121	2.354788656	0.000670746	0.000617086	3.54171E-05	1.97418E-05	78475	162976.15	236	2213006
South Coast AQMD	2021 OFF - ConstMin - Other Construction Equipment	Aggregate	175	Gasoline	0.000593458	0.000545863	0.000653065	0.050393881	0.00195978	1.545449458	0.000110792	8.37097E-05	1.53524E-05	2.15611E-05	61546.3	11231.05	30.26	1415112
South Coast AQMD	2021 OFF - ConstMin - Pavers	Aggregate	25	Diesel	0.000160924	0.000191513	0.00023173	0.00079034	0.001465625	0.191944519	5.6083E-05	5.15964E-05	2.43541E-06	1.6023E-06	6369.25	7526.3	9.11	180631.2
South Coast AQMD	2021 OFF - ConstMin - Paving Equipment	Aggregate	25	Gasoline	0.179352521	0.164968449	0.197366509	6.537461871	0.13205739	11.86858462	0.075705628	0.057199808	0.000348423	0.000303343	865893.15	1892112.55	10002.12	15510748
South Coast AQMD	2021 OFF - ConstMin - Paving Equipment	Aggregate	25	Diesel	0.000190466	0.000226671	0.000274271	0.000936125	0.001733176	0.227350391	6.47529E-05	5.95726E-05	2.88465E-06	1.89981E-06	7551.85	13165.55	15.86	250145.5
South Coast AQMD	2021 OFF - ConstMin - Paving Equipment	Aggregate	50	Gasoline	0.000914828	0.000841458	0.001006712	0.065781713	0.001497354	0.758321851	5.2278E-05	3.9499E-05	9.21981E-06	1.14672E-05	32733.2	14673	83.78	542901
South Coast AQMD	2021 OFF - ConstMin - Paving Equipment	Aggregate	100	Gasoline	0.000170311	0.000156652	0.000187417	0.007858988	0.000467246	0.344712776	2.40342E-05	1.81592E-05	3.33041E-06	4.73496E-06	13515.95	3774.1	21.59	249090.6
South Coast AQMD	2021 OFF - ConstMin - Plate Compactors	Aggregate	25	Gasoline	0.075590531	0.069528171	0.083182769	2.439679343	0.052098871	4.684123396	0.025579288	0.019326573	0.000142548	0.000117059	334146.55	1069001.05	5515.44	6566657
South Coast AQMD	2021 OFF - ConstMin - Plate Compactors	Aggregate	25	Diesel	0.000562748	0.000669717	0.000810357	0.004250654	0.005074767	0.696151816	0.000198299	0.000182435	1.08327E-05	5.83808E-06	23206.7	117902.3	196.34	943218.4
South Coast AQMD	2021 OFF - ConstMin - Rollers	Aggregate	25	Gasoline	0.03866063	0.035560048	0.042543665	1.594288666	0.02864083	2.667138738	0.019416387	0.014670159	7.185E-05	7.06804E-05	201757.4	269490.45	1082.22	3316875
South Coast AQMD	2021 OFF - ConstMin - Rollers	Aggregate	25	Diesel	0.003436153	0.004089306	0.00494806	0.021622867	0.031120963	4.179456636	0.001190449	0.001095213	5.94063E-05	3.50138E-05	139181.8	363937.85	523.24	4348614
South Coast AQMD	2021 OFF - ConstMin - Rollers	Aggregate	50	Gasoline	0.002084971	0.001917757	0.002294384	0.140578275	0.002859434	0.728811346	5.02436E-05	3.79618E-05	8.86102E-06	1.26947E-05	36237.2	13410.1	21.67	496173.7
South Coast AQMD	2021 OFF - ConstMin - Rollers	Aggregate	100	Gasoline	0.004182971	0.003847497	0.004603105	0.163161883	0.010366592	2.746159686	0.000191469	0.000144665	2.65317E-05	4.00099E-05	114208.5	25236.1	40.55	1892708
South Coast AQMD	2021 OFF - ConstMin - Rough Terrain Forklifts	Aggregate	50	Gasoline	0.000291583	0.000268198	0.00032087	0.018601591	0.000434498	0.12512628	8.62609E-06	6.51749E-06	1.52131E-06	2.05484E-06	5865.55	1784.85	4.34	83887.95
South Coast AQMD	2021 OFF - ConstMin - Rough Terrain Forklifts	Aggregate	100	Gasoline	0.003887625	0.003575838	0.004278094	0.14395174	0.010700754	3.177249102	0.000221525	0.000167375	3.06967E-05	4.5305E-05	129323.15	25374.8	61.28	2156858
South Coast AQMD	2021 OFF - ConstMin - Rough Terrain Forklifts	Aggregate	175	Gasoline	0.000146735	0.000134967	0.000161473	0.00644296	0.000697056	0.181769092	1.30309E-05	9.84557E-06	1.80569E-06	2.5548E-06	7292.7	872.35	2.08	123873.7
South Coast AQMD	2021 OFF - ConstMin - Rubber Tired Loaders	Aggregate	25	Diesel	0.000158721	0.000188891	0.000228558	0.0007801	0.001444306	0.189457655	5.39669E-05	4.96496E-05	2.40386E-06	1.58302E-06	6292.6	8183.3	8.52	204582.5
South Coast AQMD	2021 OFF - ConstMin - Rubber Tired Loaders	Aggregate	50	Gasoline	0.000692101	0.000636594	0.000761614	0.046541804	0.000952256	0.282894058	1.95025E-05	1.47352E-05	3.43948E-06	4.75286E-06	13567.05	5548	10.8	221920
South Coast AQMD	2021 OFF - ConstMin - Rubber Tired Loaders	Aggregate	100	Gasoline	0.004252937	0.003911851	0.004680097	0.166948175	0.010890905	3.343164299	0.000233093	0.000176115	3.22996E-05	4.80119E-05	137050.2	36733.6	71.71	2644819
South Coast AQMD	2021 OFF - ConstMin - Signal Boards	Aggregate	25	Gasoline	0.001931167	0.001776287	0.002125131	0.07941247	0.001538202	0.137829701	0.001001265	0.000756511	3.96196E-06	3.58542E-06	10234.6	17892.3	67.41	139875.3
South Coast AQMD	2021 OFF - ConstMin - Signal Boards	Aggregate	25	Diesel	0.008795354	0.010467198	0.012665309	0.066434695	0.07931499	10.88035773	0.003099265	0.002851324	0.000169308	9.1267E-05	362791.75	1288515.7	1716.5	7731094
South Coast AQMD	2021 OFF - ConstMin - Signal Boards	Aggregate	50	Diesel	0.000197795	0.000235393	0.000284825	0.001745078	0.00159459	0.2264209	7.13567E-05	6.56482E-05	2.92706E-06	1.90073E-06	7555.5	4566.15	8.5	168947.6
South Coast AQMD	2021 OFF - ConstMin - Skid Steer Loaders	Aggregate	25	Gasoline	0.127112324	0.116917915	0.139879358	5.310775588	0.090794185	8.589980416	0.064808905	0.048966728	0.000218007	0.000231457	660693.8	603363.25	1889.76	11419500
South Coast AQMD	2021 OFF - ConstMin - Skid Steer Loaders	Aggregate	25	Diesel	0.015741437	0.018733611	0.022667669	0.076508497	0.142477585	18.45008421	0.005677581	0.005223374	0.000234097	0.00015433	613470.1	977283.85	1170.73	19545677
South Coast AQMD	2021 OFF - ConstMin - Skid Steer Loaders	Aggregate	50	Gasoline	0.00473802	0.004358031	0.005213902	0.370401105	0.007408345	4.014986579	0.00027679	0.00020913	4.88149E-05	6.11759E-05	174626.95	91450.75	294.73	2926424
South Coast AQMD	2021 OFF - ConstMin - Skid Steer Loaders	Aggregate	100	Gasoline	0.002723388	0.002504972	0.002996922	0.142527169	0.006872079	5.937358055	0.000413967	0.000312775	5.73632E-05	8.17896E-05	233468.6	54717.15	176.34	4377372
South Coast AQMD	2021 OFF - ConstMin - Surfacing Equipment	Aggregate	25	Gasoline	0.086632339	0.079684425	0.095333604	3.247310512	0.067201658	5.711164806	0.039986181	0.030211781	0.00016489	0.000148094	422735.7	1154936.65	2699.36	8986928
South Coast AQMD	2021 OFF - ConstMin - Tampers/Rammers	Aggregate	25	Gasoline	0.009135202	0.008402559	0.010052733	0.426290941	0.007708251	0.805344025	0.006076087	0.004590821	3.2111E-05	2.00523E-05	57239.3	266004.7	1460.34	1128952
South Coast AQMD	2021 OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregate	25	Diesel	0.002948841	0.003509364	0.00424633	0.014493295	0.026833409	3.519888834	0.001004837	0.00092445	4.46607E-05	2.9442E-05	117033.6	162136.65	171.93	3729143
South Coast AQMD	2021 OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregate	100	Gasoline	0.001971241	0.001813147	0.00216923	0.132839517	0.0050775	2.342270754	0.000163309	0.000123389	2.26296E-05	3.3917E-05	96816.25	33112.8	37.99	2086106
South Coast AQMD	2021 OFF - ConstMin - Trenchers	Aggregate	25	Gasoline	0.078467722	0.07217461	0.086348941	3.236802325	0.05886326	5.340201068	0.040290262	0.030441531	0.000141785	0.000142505	406781.55	421491.05	970.33	6238992
South Coast AQMD	2021 OFF - ConstMin - Trenchers	Aggregate	25	Diesel	0.001389532	0.001653658	0.002000926	0.007528392	0.012622574	1.670115715	0.000475732	0.000437673	2.2132E-05	1.39781E-05	55563.95	58075.15	93.87	1297345
South Coast AQMD	2021 OFF - ConstMin - Trenchers	Aggregate	50	Gasoline	0.00853119	0.007846989	0.009388055	0.542214678	0.012779167	3.70563604	0.000255463	0.000193017	4.50538E-05	6.08678E-05	173747.3	79069.95	196.53	2372099
South Coast AQMD	2021 OFF - ConstMin - Trenchers	Aggregate	100	Gasoline	0.003230798	0.002971688	0.003555296	0.119204672	0.008951919	2.675126354	0.000186516	0.000140923	2.58455E-05	3.81098E-05	108784.6	26221.6	65.26	1730626
South Coast AQMD	2021 OFF - Industrial - Aerial Lifts	Aggregate	25	Gasoline	0.028803991	0.026493911	0.031697035	1.192252449	0.020531763	1.913891383	0.014439754	0.010910036	4.86026E-05	5.17776E-05	147799.45	170086.35	453.11	3208295
South Coast AQMD	2021 OFF - Industrial - Aerial Lifts	Aggregate	25	Diesel	0.003152022	0.003751167	0.004538912	0.017931697	0.028406915	3.739397969	0.001130231	0.001039813	5.09472E-05	3.12995E-05	124417.55	270928.55	678.47	4735995
South Coast AQMD	2021 OFF - Industrial - Aerial Lifts	Aggregate	25	Nat Gas	0	0	0.002481025	0.66100155	0.018190029	3.889122203	0	0	0	0	259963.95	219974.55	586.08	4149426
South Coast AQMD	2021 OFF - Industrial - Aerial Lifts	Aggregate	50	Gasoline	0.008901841	0.008187913	0.009795933	0.731312412	0.013477364	7.020411552	0.000483981	0.000365674	8.53554E-05	0.000108743	310406.95	195497.65	541.06	6451422
South Coast AQMD	2021 OFF - Industrial - Aerial Lifts	Aggregate	100	Gasoline	0.007017047	0.00645428	0.007721832	0.38848632	0.017744367	14.09343157	0.000982628	0.00074243	0.000136162	0.000195211	557230.9	195497.65	541.06	13098343
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	25	Gasoline	0.000851092	0.000782835	0.000936575	0.052544065	0.000716676	0.083688312	4.20936E-05	3.18041E-05	2.12105E-06	2.2492E-06	6420.35	9354.95	10.37	215163.9
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	25	Nat Gas	0	0	0.000119921	0.018971191	0.000529722	0.098884365	0	0	0	0	6891.2	7033.55	5.6	161771.7
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	50	Gasoline	0.225060959	0.20701107	0.247665857	26.52006463	0.524255534	94.5986645	0.006521547	0.004927391	0.001150147	0.001818103	5189781.7	3251182.75	1804.66	1.33E+08
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	50	Nat Gas	0	0	0.016590545	2.757660746	0.721269155	171.9393938	0	0	0	0	9159131.15	6860784.55	3808.22	2.81E+08
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	100	Gasoline	0.475129098	0.437023744	0.522850589	45.08720461	2.371773436	560.4202161	0.039073839	0.029522456	0.005414441	0.008390662	23951175.9	11409370.75	6333.09	7.99E+08
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	100	Nat Gas	0	0	0.098417367	46.48801404	4.661111119	1030.286729	0	0	0	0	57319005.05	24079228.85	13365.77	1.69E+09
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	175	Gasoline	0.024798779	0.022809917	0.027289544	1.736430128	0.14689138	41.54767911	0.002978526	0.002250442	0.000412733	0.000588036	1678551.05	416972.35	231.45	60877963
South Coast AQMD	2021 OFF - Industrial - Forklifts	Aggregate	175	Nat Gas	0	0	0.004515493	2.723662657	0.232008265	78.63835606	0	0	0	0	4302065.2	881179.35	489.13	1.29E+08
South Coast AQMD	2021 OFF - Industrial - Other General Industrial Equipment	Aggregate	25	Gasoline	0.023805914	0.02189668	0.026196956	1.45773843	0.019292459	2.427945635	0.001169326	0.000883491	6.73005E-05	6.38458E-05	182248.15	328237.2	845.8	3467004
South Coast AQMD	2021 OFF - Industrial - Other General Industrial Equipment	Aggregate	25	Diesel	0.003826976	0.004554418	0.005510845	0.021685374	0.035649347	4.72537223	0.00134602	0.001238339	6.31756E-05	3.95434E-05	157187.25	299628.5	210.08	5398752
South Coast AQMD	2021 OFF - Industrial - Other General Industrial Equipment	Aggregate	50	Gasoline	0.006993266	0.006432406	0.007695663	0.670938153	0.015624556	4.7265131	0.000325842	0.000246191	5.74658E-05	7.69856E-05	219755.55	123329.85	172.82	3699896
South Coast AQMD	2021 OFF - Industrial - Other General Industrial Equipment	Aggregate	100	Gasoline	0.002163621	0.001990099	0.002380933	0.157367582	0.012907562	4.044236361	0.000281974	0.000213047	3.9073E-05	5.69729E-05	162629.4	40522.3	56.8	3201262
South Coast AQMD	2021 OFF - Industrial - Other General Industrial Equipment	Aggregate	175	Gasoline	0.000303546	0.000279202	0.000334034	0.029356058	0.002601364	0.838370479	6.01022E-05	4.54106E-05	8.32833E-06	1.17345E-05	33496.05	3920.1	5.51	682097.4
South Coast AQMD	2021 OFF - Industrial - Other Material Handling Equipment	Aggregate	50	Gasoline	0.000101628	9.34775E-05	0.000111836	0.007258866	0.000199761	0.048512859	3.34443E-06	2.5269E-06	5.89828E-07	7.83832E-07	2237.45	930.75	2.36	38160.75
South Coast AQMD	2021 OFF - Industrial - Other Material Handling Equipment	Aggregate	100	Gasoline	0.00285036	0.002621761	0.003136647	0.123154232	0.012165701	2.79558935	0.000194915	0.000147269	2.70093E-05	3.97657E-05	113511.35	41741.4	108.18	2254036
South Coast AQMD	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregate	25	Gasoline	0.018132975	0.01667871	0.019954233	1.171226277	0.014813656	1.915075131	0.000892603	0.000674411	5.04357E-05	5.07662E-05	144912.3	160731.4	594.85	2079580
South Coast AQMD	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregate	25	Diesel	0.000762141	0.000907011	0.001097483	0.004678773	0.007202886	0.96075229	0.00027367	0.000251776	1.32345E-05	8.03998E-06	31959.4	44493.5	68.4	823096.9
South Coast AQMD	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregate	50	Gasoline	0.019384735	0.017830079	0.021331719	1.674768005	0.042387363	15.27753133	0.001053219	0.000795766	0.000185747	0.000238369	680425.7	259905.55	503.25	9096694
South Coast AQMD	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregate	100	Gasoline	0.011314766	0.010407322	0.01245121	0.715496006	0.072194902	24.50465256	0.001708523	0.001290884	0.000236749	0.00034021	971129.95	216981.55	420.2	14754745
South Coast AQMD	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregate	175	Gasoline	8.75811E-05	8.05571E-05	9.63776E-05	0.009556583	0.000856596	0.285270554	2.04509E-05	1.54518E-05	2.83386E-06	3.98053E-06	11362.45	1259.25	2.37	176295
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	25	Gasoline	0.203831037	0.187483788	0.224303623	4.695550705	0.122337884	10.41513566	0.039666922	0.029970563	0.000325319	0.000247082	705296.8	2326703.45	4813.19	14340240
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	25	Diesel	0.000928271	0.001104719	0.00133671	0.004768425	0.008032261	1.014797929	0.000367148	0.000337777	1.34634E-05	8.50277E-06	33799	61670.4	75.63	1231875
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	50	Gasoline	0.011069726	0.010181934	0.012181558	0.737045589	0.015411036	4.469838588	0.000308147	0.000232822	5.43451E-05	7.51877E-05	214623.65	96396.5	199.41	3373878
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	50	Diesel	0.012558437	0.014945578	0.018084149	0.100835955	0.084551913	11.35157709	0.004314864	0.003969675	0.000146748	9.57893E-05	380768	372416.8	457.43	13779422
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	100	Gasoline	0.037106047	0.034130142	0.040832942	1.437363803	0.096042841	28.66255102	0.001998422	0.001509919	0.00027692	0.000411766	1175387.6	312582.35	646.71	21880765
South Coast AQMD	2021 OFF - Light Commercial - Air Compressors	Aggregate	175	Gasoline	0.003111066	0.002861558	0.003423538	0.130201453	0.013614073	3.589793347	0.00025735	0.000194442	3.56608E-05	5.04401E-05	143981.55	21027.65	43.54	2817705
South Coast AQMD	2021 OFF - Light Commercial - Gas Compressors	Aggregate	50	Nat Gas	0	0	0.00066364	0.117650117	0.024101942	8.01830469	0	0	0	0	426028	124618.3	14.67	3987786
South Coast AQMD	2021 OFF - Light Commercial - Gas Compressors	Aggregate	100	Nat Gas	0	0	0.003619158	1.881407654	0.142598939	45.05873234	0	0	0	0	2493125.2	257536.7	30.3	22663230
South Coast AQMD	2021 OFF - Light Commercial - Gas Compressors	Aggregate	175	Nat Gas	0	0	0.001009286	0.382781633	0.038158816	11.72668439	0	0	0	0	640279.35	41533.35	4.89	6063869
South Coast AQMD	2021 OFF - Light Commercial - Gas Compressors	Aggregate	300	Nat Gas	0	0	0.000776622	0.440461083	0.03695832	12.08585669	0	0	0	0	663117.4	33229.6	3.92	6978216
South Coast AQMD	2021 OFF - Light Commercial - Gas Compressors	Aggregate	600	Nat Gas	0	0	0.001093742	0.620315953	0.052049624	17.0209156	0	0	0	0	933892.65	29079.55	3.42	9828888
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	25	Gasoline	1.531445336	1.40862342	1.685262174	81.00673579	1.074349688	137.4061403	0.090460768	0.068348136	0.003763834	0.003592325	10254306.35	14525543.65	126422.18	1.56E+08
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	25	Diesel	0.022030711	0.026218366	0.031724223	0.136837348	0.209264855	26.53695447	0.009334911	0.008588118	0.000370386	0.000222292	883624.85	1453035.8	4304.28	20894045
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	50	Gasoline	0.056174184	0.051669015	0.061816263	3.356446478	0.117475325	38.80016752	0.002674849	0.002020997	0.000471739	0.000587101	1675882.9	753754.2	6562.59	24120134
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	50	Diesel	0.024063429	0.028637469	0.034651338	0.217005185	0.217068423	31.41845912	0.009332629	0.008586019	0.000406162	0.000263803	1048634.05	749615.1	2220.56	24737298
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	100	Gasoline	0.013236445	0.012174882	0.0145659	0.477589677	0.072659841	19.21812034	0.001339933	0.001012394	0.000185674	0.00026532	757356.75	145536.45	1267.43	12079525
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	100	Nat Gas	0	0	6.21518E-05	0.03910056	0.004541936	1.24603204	0	0	0	0	67798.75	10833.2	94.33	899155.6
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	175	Gasoline	0.001303552	0.001199007	0.001434479	0.099529319	0.012782801	3.106468719	0.000222701	0.000168263	3.08595E-05	4.33025E-05	123607.25	13731.3	119.7	2004770
South Coast AQMD	2021 OFF - Light Commercial - Generator Sets	Aggregate	175	Nat Gas	0	0	6.98437E-05	0.046872037	0.006318141	1.817049056	0	0	0	0	98013.45	8957.1	78.19	1307737
South Coast AQMD	2021 OFF - Light Commercial - Pressure Washers	Aggregate	25	Gasoline	0.162454396	0.149425553	0.178771153	5.913358283	0.083537199	11.57370517	0.015943814	0.012046437	0.000346671	0.000285468	814869.8	1516370.6	13197.57	10498758
South Coast AQMD	2021 OFF - Light Commercial - Pressure Washers	Aggregate	25	Diesel	0.000120118	0.00014295	0.000172969	0.000859826	0.001178122	0.149909021	5.31935E-05	4.8938E-05	2.2233E-06	1.2442E-06	4945.75	20560.45	142.19	290609.3
South Coast AQMD	2021 OFF - Light Commercial - Pressure Washers	Aggregate	50	Gasoline	0.000501554	0.000461329	0.00055193	0.03153421	0.000860501	0.392849554	2.70827E-05	2.04625E-05	4.77633E-06	5.88705E-06	16804.6	6723.3	58.61	194975.7
South Coast AQMD	2021 OFF - Light Commercial - Pressure Washers	Aggregate	50	Diesel	8.29061E-05	9.86652E-05	0.000119385	0.000887762	0.001002515	0.15096599	3.68811E-05	3.39307E-05	1.95161E-06	1.25889E-06	5004.15	7686.9	53.31	292102.2
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	25	Gasoline	0.505269762	0.464747127	0.556018552	17.07676335	0.346570388	31.96893467	0.19883728	0.150232612	0.00097478	0.000807208	2304179.3	6438264.2	29171.88	35724050
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	25	Diesel	0.012249914	0.01457841	0.017639876	0.073327626	0.107594238	13.62323807	0.005039449	0.004636293	0.00019479	0.000114209	453987	976028.25	2424.9	10726733
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	50	Gasoline	0.008621244	0.007929821	0.009487154	0.593288987	0.013738243	5.857779744	0.00040383	0.000305116	7.12199E-05	9.04552E-05	258204.65	115763.4	524.55	3588665
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	50	Diesel	0.015422732	0.018354325	0.022208734	0.133357333	0.128706858	18.38878552	0.005788123	0.005325073	0.000237721	0.000154544	614320.55	391316.5	972.27	14478711
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	100	Gasoline	0.014723295	0.013542487	0.016202088	0.620988179	0.042335161	22.0235217	0.001535533	0.00116018	0.000212778	0.000305564	872233.2	146722.7	664.8	13645211
South Coast AQMD	2021 OFF - Light Commercial - Pumps	Aggregate	175	Gasoline	0.000485749	0.000446792	0.000534537	0.032987205	0.002136983	0.999836504	7.16776E-05	5.41564E-05	9.93233E-06	1.39594E-05	39847.05	4409.2	20.02	634924.8
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	25	Gasoline	0.492571481	0.453067248	0.542044868	20.52993726	0.357577625	33.32743368	0.251445782	0.189981258	0.000860702	0.000896401	2558781.4	3209404.85	15448.99	50387056
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	25	Diesel	0.010859757	0.012924009	0.015638051	0.060447328	0.094684338	11.97578017	0.004382361	0.004031772	0.000165181	0.000100336	398842.8	1019244.25	1587.12	15506003
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	50	Gasoline	0.020894087	0.019218381	0.022992668	1.238453538	0.034213492	11.75339838	0.000810269	0.000612203	0.0001429	0.000182677	521453.6	216507.05	1042.15	9742817
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	50	Diesel	0.054018065	0.064285962	0.077786014	0.434731416	0.38048699	52.1700552	0.018980511	0.01746207	0.000674429	0.000439711	1747875.5	1468497.2	2286.55	67550871
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	100	Gasoline	0.016659015	0.015322962	0.01833223	0.576134126	0.05187764	18.45074811	0.00128643	0.00097197	0.00017826	0.00025739	734719.45	220974.65	1063.62	15468226
South Coast AQMD	2021 OFF - Light Commercial - Welders	Aggregate	175	Gasoline	0.00135792	0.001249015	0.001494308	0.07600554	0.007292427	2.297255832	0.000164689	0.000124432	2.28208E-05	3.20885E-05	91596.75	15213.2	73.3	1977716
South Coast AQMD	2021 OFF - Military - A/C unit	Aggregate	100	Diesel	0.000155357	0.000184888	0.000223715	0.002339822	0.002054383	0.397968552	0.000108668	9.99748E-05	4.66838E-06	3.32949E-06	13234.9	3817.9	12.7	385607.9
South Coast AQMD	2021 OFF - Military - A/C unit	Aggregate	300	Diesel	7.66822E-05	9.12582E-05	0.000110422	0.000613365	0.00108003	0.342154256	3.18803E-05	2.93299E-05	3.84982E-06	2.84191E-06	11296.75	1591.4	5.31	331011.2
South Coast AQMD	2021 OFF - Military - A/C unit	Aggregate	600	Diesel	4.38921E-05	5.22352E-05	6.32046E-05	0.000360372	0.000585566	0.204856439	1.8465E-05	1.69878E-05	2.01073E-06	1.69413E-06	6734.25	620.5	2.07	195457.5
South Coast AQMD	2021 OFF - Military - Aircraft Support	Aggregate	100	Diesel	2.84341E-05	3.3839E-05	4.09452E-05	0.000428244	0.000376002	0.072837847	1.98889E-05	1.82978E-05	8.54425E-07	6.11538E-07	2430.9	1032.95	3.44	70240.6
South Coast AQMD	2021 OFF - Military - Aircraft Support	Aggregate	175	Diesel	6.25031E-05	7.43839E-05	9.00045E-05	0.00109612	0.000798441	0.214228948	3.51061E-05	3.22976E-05	2.41044E-06	1.7887E-06	7110.2	1481.9	4.94	207466
South Coast AQMD	2021 OFF - Military - Cart	Aggregate	100	Diesel	1.45157E-05	1.72749E-05	2.09027E-05	0.00021862	0.00019195	0.037184026	1.01534E-05	9.3411E-06	4.36188E-07	3.1036E-07	1233.7	423.4	1.47	34295.4
South Coast AQMD	2021 OFF - Military - Cart	Aggregate	175	Diesel	5.12302E-06	6.09682E-06	7.37715E-06	8.98427E-05	6.54437E-05	0.017559124	2.87744E-06	2.64725E-06	1.9757E-07	1.43243E-07	569.4	109.5	0.32	16753.5
South Coast AQMD	2021 OFF - Military - Cart	Aggregate	300	Diesel	1.689E-05	2.01005E-05	2.43216E-05	0.000135099	0.000237887	0.075362687	7.02194E-06	6.46018E-06	8.4796E-07	6.23475E-07	2478.35	346.75	1.17	68309.75
South Coast AQMD	2021 OFF - Military - Communications	Aggregate	50	Diesel	4.39663E-06	5.23235E-06	6.33114E-06	4.12248E-05	4.26308E-05	0.006120827	1.80412E-06	1.65979E-06	7.9127E-08	4.4993E-08	178.85	127.75	0.46	5110
South Coast AQMD	2021 OFF - Military - Communications	Aggregate	100	Diesel	7.16827E-06	8.53083E-06	1.03223E-05	0.000107961	9.47903E-05	0.018362482	5.01401E-06	4.61289E-06	2.15401E-07	1.50589E-07	598.6	208.05	0.72	16644
South Coast AQMD	2021 OFF - Military - Compressor (Military)	Aggregate	50	Diesel	5.38587E-06	6.40963E-06	7.75565E-06	5.05004E-05	5.22228E-05	0.007498013	2.21005E-06	2.03325E-06	9.69306E-08	5.87664E-08	233.6	127.75	0.46	6259.75
South Coast AQMD	2021 OFF - Military - Compressor (Military)	Aggregate	100	Diesel	0.000160106	0.00019054	0.000230553	0.002411346	0.002117181	0.410133674	0.00011199	0.000103031	4.81108E-06	3.43049E-06	13636.4	5613.7	18.63	398572.7
South Coast AQMD	2021 OFF - Military - Compressor (Military)	Aggregate	175	Diesel	7.45573E-06	8.87293E-06	1.07363E-05	0.000130751	9.52426E-05	0.025554454	4.18765E-06	3.85264E-06	2.87531E-07	2.11192E-07	839.5	127.75	0.46	21334.25
South Coast AQMD	2021 OFF - Military - Compressor (Military)	Aggregate	300	Diesel	1.52953E-05	1.82027E-05	2.20252E-05	0.000122344	0.000215426	0.068247222	6.35895E-06	5.85024E-06	7.67898E-07	5.64709E-07	2244.75	284.7	0.92	63488.1
South Coast AQMD	2021 OFF - Military - Compressor (Military)	Aggregate	600	Diesel	8.56039E-05	0.000101876	0.00012327	0.000702844	0.001142045	0.399537	3.60127E-05	3.31317E-05	3.92159E-06	3.31571E-06	13180.15	1032.95	3.44	385290.4
South Coast AQMD	2021 OFF - Military - Crane	Aggregate	100	Diesel	1.08161E-05	1.2872E-05	1.55751E-05	0.000360636	0.000198497	0.06426869	3.38519E-06	3.11438E-06	7.53905E-07	5.32571E-07	2117	591.3	1.94	62086.5
South Coast AQMD	2021 OFF - Military - Crane	Aggregate	175	Diesel	2.21261E-06	2.63319E-06	3.18616E-06	8.03379E-05	2.47576E-05	0.016181937	6.24568E-07	5.74603E-07	1.82075E-07	1.34979E-07	536.55	94.9	0.34	13380.9
South Coast AQMD	2021 OFF - Military - Crane	Aggregate	300	Diesel	1.98266E-06	2.35953E-06	2.85503E-06	2.76965E-05	1.65317E-05	0.016373212	4.4804E-07	4.12197E-07	1.84227E-07	1.34979E-07	536.55	65.7	0.23	14059.8
South Coast AQMD	2021 OFF - Military - Deicer	Aggregate	100	Diesel	6.57091E-06	7.81993E-06	9.46211E-06	9.89639E-05	8.68911E-05	0.016832275	4.59618E-06	4.22848E-06	1.97451E-07	1.3957E-07	554.8	127.75	0.46	14052.5
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	50	Diesel	2.81934E-05	3.35524E-05	4.05985E-05	0.000264354	0.00027337	0.039249806	1.15689E-05	1.06434E-05	5.07402E-07	3.28725E-07	1306.7	985.5	3.32	37449
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	100	Diesel	0.000832953	0.000991283	0.001199452	0.012545027	0.011014635	2.133720355	0.000582628	0.000536018	2.50296E-05	1.78485E-05	70948.7	24955.05	83.1	2071269
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	175	Diesel	0.000887622	0.001056344	0.001278176	0.015566277	0.011338862	3.042319048	0.00049855	0.000458666	3.42313E-05	2.54027E-05	100977.25	20104.2	66.86	2955317
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	300	Diesel	0.000273403	0.000325373	0.000393701	0.002186896	0.003850748	1.21991911	0.000113666	0.000104573	1.37262E-05	1.01308E-05	40270.45	5310.75	17.65	1184297
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	600	Diesel	0.000165438	0.000196884	0.00023823	0.00135831	0.002207109	0.772142325	6.95979E-05	6.403E-05	7.57883E-06	6.40829E-06	25473.35	2157.15	7.15	750688.2
South Coast AQMD	2021 OFF - Military - Generator (Military)	Aggregate	750	Diesel	8.86068E-06	1.05449E-05	1.27594E-05	7.18633E-05	0.000119128	0.040851246	3.72017E-06	3.42256E-06	4.10748E-07	3.37907E-07	1343.2	25.55	0.21	13669.25
South Coast AQMD	2021 OFF - Military - Hydraulic unit	Aggregate	100	Diesel	9.50542E-05	0.000113122	0.000136878	0.001431603	0.001256959	0.243494169	6.64879E-05	6.11689E-05	2.85631E-06	2.0302E-06	8070.15	2478.35	8.26	235443.3
South Coast AQMD	2021 OFF - Military - Lift (Military)	Aggregate	100	Diesel	2.83744E-06	3.37679E-06	4.08591E-06	4.27344E-05	3.75212E-05	0.007268482	1.98471E-06	1.82594E-06	8.5263E-08	5.60117E-08	222.65	25.55	0.21	2427.25
South Coast AQMD	2021 OFF - Military - Light	Aggregate	50	Diesel	6.86973E-06	8.17555E-06	9.89241E-06	6.44138E-05	6.66107E-05	0.009563793	2.81894E-06	2.59343E-06	1.23636E-07	7.62127E-08	302.95	171.55	0.58	8577.5
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	50	Diesel	1.37395E-06	1.63511E-06	1.97848E-06	1.28828E-05	1.33221E-05	0.001912759	5.63789E-07	5.18686E-07	2.47272E-08	0	0	0	0	0
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	100	Diesel	1.88764E-05	2.24645E-05	2.71821E-05	0.000284296	0.000249614	0.048354536	1.32036E-05	1.21473E-05	5.67224E-07	4.02183E-07	1598.7	587.65	1.92	46424.35
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	175	Diesel	2.64299E-05	3.14538E-05	3.8059E-05	0.000463502	0.000337627	0.090588241	1.48449E-05	1.36573E-05	1.01927E-06	7.55699E-07	3003.95	587.65	1.92	86972.2
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	300	Diesel	1.12143E-05	1.33459E-05	1.61485E-05	8.97005E-05	0.000157947	0.050037765	4.66228E-06	4.2893E-06	5.63011E-07	4.15038E-07	1649.8	208.05	0.72	45354.9
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	600	Diesel	4.42609E-06	5.26742E-06	6.37357E-06	3.63401E-05	5.90487E-05	0.020657792	1.86201E-06	1.71305E-06	2.02763E-07	1.68953E-07	671.6	25.55	0.21	6898.5
South Coast AQMD	2021 OFF - Military - Other tactical support equipment	Aggregate	750	Diesel	5.19429E-06	6.18163E-06	7.47978E-06	4.21275E-05	6.98349E-05	0.023947737	2.18083E-06	2.00636E-06	2.40788E-07	1.99255E-07	792.05	0	0	0
South Coast AQMD	2021 OFF - Military - Pressure Washers	Aggregate	175	Diesel	5.08954E-06	6.05697E-06	7.32894E-06	8.92555E-05	6.50159E-05	0.017444358	2.85864E-06	2.62995E-06	1.96279E-07	1.42325E-07	565.75	109.5	0.32	16644
South Coast AQMD	2021 OFF - Military - Pump (Military)	Aggregate	50	Diesel	6.21573E-05	7.39723E-05	8.95065E-05	0.000582816	0.000602694	0.086533197	2.55058E-05	2.34653E-05	1.11866E-06	7.29989E-07	2901.75	2157.15	7.15	84128.85
South Coast AQMD	2021 OFF - Military - Pump (Military)	Aggregate	100	Diesel	6.72025E-05	7.99766E-05	9.67716E-05	0.001012131	0.000888659	0.172148265	4.70064E-05	4.32458E-05	2.01939E-06	1.44161E-06	5730.5	1671.7	5.57	167170
South Coast AQMD	2021 OFF - Military - Start Cart	Aggregate	100	Diesel	1.49339E-06	1.77726E-06	2.15048E-06	2.24918E-05	1.9748E-05	0.003825517	1.04459E-06	9.61019E-07	4.48753E-08	2.93832E-08	116.8	0	0	0
South Coast AQMD	2021 OFF - Military - Start Cart	Aggregate	600	Diesel	2.3196E-06	2.76052E-06	3.34023E-06	1.90449E-05	3.09459E-05	0.010826214	9.75832E-07	8.97766E-07	1.06263E-07	8.26403E-08	328.5	0	0	0
South Coast AQMD	2021 OFF - Military - Test Stand	Aggregate	100	Diesel	4.53393E-05	5.39575E-05	6.52886E-05	0.000682851	0.000599549	0.116142698	3.17136E-05	2.91765E-05	1.36241E-06	9.68728E-07	3850.75	1219.1	4.06	112157.2
South Coast AQMD	2021 OFF - Military - Test Stand	Aggregate	175	Diesel	3.1698E-06	3.77233E-06	4.56451E-06	5.5589E-05	4.04924E-05	0.010864468	1.78038E-06	1.63795E-06	1.22244E-07	8.44767E-08	335.8	25.55	0.21	3628.1
South Coast AQMD	2021 OFF - Military - Test Stand	Aggregate	300	Diesel	5.23589E-05	6.23115E-05	7.53969E-05	0.000418808	0.000737449	0.233624336	2.1768E-05	2.00266E-05	2.62867E-06	1.94113E-06	7716.1	1149.75	3.83	226500.8
South Coast AQMD	2021 OFF - Military - Test Stand	Aggregate	600	Diesel	3.37367E-05	4.01494E-05	4.85808E-05	0.000276992	0.000450082	0.157458281	1.41927E-05	1.30573E-05	1.5455E-06	1.30847E-06	5201.25	423.4	1.47	145226.2
South Coast AQMD	2021 OFF - Military - Welder	Aggregate	50	Diesel	2.0197E-05	2.40361E-05	2.90837E-05	0.000189376	0.000195835	0.02811755	8.28769E-06	7.62468E-06	3.6349E-07	2.35984E-07	938.05	773.8	2.58	27083
South Coast AQMD	2021 OFF - Military - Welder	Aggregate	100	Diesel	5.37023E-05	6.39102E-05	7.73313E-05	0.000808805	0.000710137	0.13756559	3.75633E-05	3.45582E-05	1.61371E-06	1.14962E-06	4569.8	2157.15	7.15	133743.3
South Coast AQMD	2021 OFF - Oil Drilling - Compressors (Workover)	Aggregate	25	Diesel	7.36981E-06	8.77068E-06	1.06125E-05	3.62451E-05	6.65611E-05	0.008412261	2.93065E-06	2.6962E-06	1.06736E-07	5.693E-08	226.3	401.5	0.48	9636
South Coast AQMD	2021 OFF - Oil Drilling - Generator (Drilling)	Aggregate	50	Diesel	6.56245E-06	7.80986E-06	9.44993E-06	5.33835E-05	4.24937E-05	0.005454204	2.20288E-06	2.02665E-06	7.05093E-08	4.40748E-08	175.2	175.2	0	5781.6
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	25	Diesel	1.85324E-06	2.24242E-06	2.66867E-06	3.45689E-05	2.52464E-05	0.004860521	1.15173E-07	1.05959E-07	4.48823E-08	3.96709E-08	157.6942657	218.1910921	0.136882743	5454.777
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	50	Diesel	0.000219443	0.000265525	0.000315997	0.000792581	0.000559981	0.047193038	7.36489E-05	6.7757E-05	4.2974E-07	3.85183E-07	1531.126155	1255.6254	1.095061943	52966.5
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	75	Diesel	1.54668E-05	1.87148E-05	2.22721E-05	0.000204769	0.000188406	0.028152805	1.13293E-05	1.04229E-05	2.59823E-07	2.29779E-07	913.3867633	501.9490181	0.547530971	35138.48
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	100	Diesel	0.000144191	0.000174471	0.000207634	0.0012193	0.001574509	0.158387566	0.000117964	0.000108527	1.46005E-06	1.29274E-06	5138.710153	2203.949043	1.642592914	196344.7
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	175	Diesel	0.000662155	0.000801208	0.000953504	0.007482617	0.006370657	1.136733962	0.000393988	0.000362469	1.04898E-05	9.27787E-06	36880.08152	9789.853769	8.212964571	1412694
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	300	Diesel	0.000552789	0.000668874	0.000796016	0.003074993	0.007107799	1.329551939	0.000216294	0.00019899	1.22758E-05	1.08516E-05	43135.84841	7395.227066	5.885957943	1654664
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	600	Diesel	0.00096629	0.001169211	0.001391457	0.005345926	0.013520838	2.48686079	0.000427005	0.000392845	2.29633E-05	2.02974E-05	80683.45953	7441.904081	5.338426971	3097389
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	750	Diesel	0.000213496	0.00025833	0.000307434	0.001070735	0.002096334	0.502278708	8.74019E-05	8.04097E-05	4.63741E-06	4.09953E-06	16295.87953	979.8066734	0.684413714	624642.5
South Coast AQMD	2021 Oil Drilling - Drill Rig (Mobile)	Aggregate	9999	Diesel	0.000177503	0.000214779	0.000255605	0.000864062	0.003668007	0.420657844	9.25475E-05	8.51437E-05	3.88387E-06	3.43335E-06	13647.78047	682.4973559	0.410648229	524892.3
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	75	Diesel	1.45226E-06	1.75723E-06	2.09125E-06	1.3245E-05	1.88909E-05	0.001689459	1.39349E-06	1.28201E-06	1.55763E-08	1.37891E-08	54.81262278	28.49150685	0.142457534	2108.372
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	175	Diesel	2.16247E-05	2.61659E-05	3.11395E-05	0.0002622	0.000216109	0.038924744	1.55995E-05	1.43516E-05	3.5923E-07	3.17699E-07	1262.870464	286.1971863	0.284915068	48578.73
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	300	Diesel	0.000247278	0.000299206	0.00035608	0.001448636	0.002379766	0.555459927	8.69255E-05	7.99715E-05	5.12808E-06	4.53359E-06	18021.28561	3148.881337	5.69830137	684708.5
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	600	Diesel	0.011029942	0.01334623	0.015883117	0.069510518	0.114167335	33.77519094	0.003719706	0.00342213	0.000311937	0.000275669	1095798.873	107276.2216	76.78461096	42181595
South Coast AQMD	2021 Oil Drilling - Workover Rig (Mobile)	Aggregate	750	Diesel	9.11858E-05	0.000110335	0.000131308	0.00054405	0.000762149	0.270425478	3.89762E-05	3.58581E-05	2.49748E-06	2.20718E-06	8773.656798	494.897474	0.284915068	337463.4
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	50	Diesel	4.47338E-05	5.41279E-05	6.44167E-05	0.000958663	0.000996847	0.153248923	3.24298E-05	2.98355E-05	1.41552E-06	1.2508E-06	4971.992531	6868.331723	17.25598583	292090
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	75	Diesel	0.000632767	0.000765648	0.000911184	0.010886144	0.010332726	1.653055139	0.000435007	0.000400206	1.52643E-05	1.3492E-05	53631.55347	52657.20988	132.2958913	3502682
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	100	Diesel	0.001302988	0.001576616	0.001876303	0.03548667	0.020575985	5.309106982	0.001439934	0.001324739	4.90462E-05	4.33322E-05	172248.1291	132329.8579	332.4653269	11249543
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	175	Diesel	0.001858222	0.002248449	0.00267584	0.061615544	0.030351329	11.13724114	0.001123738	0.001033839	0.000102914	9.09007E-05	361335.5231	171250.4043	430.2492466	23598859
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	300	Diesel	0.00121843	0.001474301	0.00175454	0.012708024	0.016702139	6.679673717	0.000602232	0.000554054	6.17203E-05	5.45186E-05	216714.6574	49909.87719	125.393497	14153656
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	600	Diesel	0.001856828	0.002246762	0.002673833	0.017491226	0.025160403	9.141261371	0.000956324	0.000879818	8.44598E-05	7.46097E-05	296578.1579	39836.32399	100.0847178	19369549
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	750	Diesel	0.000699023	0.000845818	0.001006593	0.005697019	0.012422396	2.993064234	0.000404297	0.000371953	2.76514E-05	2.4429E-05	97106.67282	9157.775631	23.0079811	6342047
South Coast AQMD	2021 Portable Equipment - Non-Rental Compressor	Aggregate	9999	Diesel	3.01043E-05	3.64262E-05	4.33501E-05	0.000375538	0.000606982	0.194663483	1.51117E-05	1.39028E-05	1.79886E-06	1.58882E-06	6315.642337	457.8887815	1.150399055	412475.2
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	50	Diesel	0.00027876	0.000337299	0.000401414	0.003539627	0.002684181	0.360161406	0.000118664	0.000109171	3.32151E-06	2.93959E-06	11685.04018	13748.71963	10.3535915	686461.9
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	75	Diesel	0.0070311	0.008507632	0.010124785	0.101711568	0.079429922	13.78113077	0.003096729	0.002848991	0.000127202	0.00011248	447113.6105	436903.7571	329.0141298	29201035
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	100	Diesel	0.008782023	0.010626247	0.012646113	0.161933245	0.104424805	21.9679486	0.008216337	0.00755903	0.000202841	0.000179299	712725.8989	476622.2805	358.9245052	46548200
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	175	Diesel	0.01719479	0.020805696	0.024760498	0.30119033	0.182909664	47.62717711	0.009298778	0.008554876	0.000439821	0.000388727	1545211.309	711878.1497	536.0859597	1.01E+08
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	300	Diesel	0.019646444	0.023772197	0.028290879	0.118904859	0.174999799	52.09099781	0.00747574	0.00687768	0.000481018	0.00042516	1690035.056	439959.0281	331.3149279	1.1E+08
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	600	Diesel	0.03426795	0.041464219	0.049345848	0.219103299	0.30883466	107.1347175	0.012886726	0.011855788	0.000989486	0.000874419	3475867.921	559114.5983	421.0460542	2.27E+08
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	750	Diesel	0.010674954	0.012916694	0.015371933	0.057069133	0.10185832	26.77914834	0.004678302	0.004304038	0.000247266	0.000218568	868819.9759	80964.68226	60.97114992	56742720
South Coast AQMD	2021 Portable Equipment - Non-Rental Generator	Aggregate	9999	Diesel	0.069331894	0.083891591	0.099837927	0.37926702	1.1013629	175.08961	0.034466874	0.031709524	0.00161671	0.001429058	5680589.569	290250.7477	218.5758205	3.71E+08
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	50	Diesel	6.35478E-05	7.68929E-05	9.15089E-05	0.000813921	0.000862892	0.130940178	3.39529E-05	3.12367E-05	1.2087E-06	1.06872E-06	4248.209874	5350.170087	17.25598583	249569.9
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	75	Diesel	0.000876541	0.001060615	0.001262219	0.021862954	0.018622929	3.531343374	0.00052387	0.00048196	3.26227E-05	2.88223E-05	114570.5467	103436.6217	333.615726	7482614
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	100	Diesel	0.001848646	0.002236862	0.00266205	0.050413514	0.037060036	7.947638436	0.002300266	0.002116245	7.34244E-05	6.48676E-05	257852.3763	185472.563	598.2075087	16840365
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	175	Diesel	0.005109358	0.006182323	0.007357475	0.141653166	0.093468462	25.70626845	0.003634811	0.003344026	0.000237514	0.000209811	834011.5696	386995.6363	1248.182975	54469379
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	300	Diesel	0.001823798	0.002206795	0.002626269	0.017058604	0.026815171	8.62700063	0.000962396	0.000885405	7.97062E-05	7.04124E-05	279893.5345	75972.41524	245.0349987	18279875
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	600	Diesel	0.002506544	0.003032918	0.003609423	0.021416044	0.042760103	11.34550733	0.001349891	0.001241899	0.00010482	9.26005E-05	368092.4904	53501.70087	172.5598583	24040158
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	750	Diesel	0.001043809	0.001263009	0.001503085	0.00932404	0.018424145	4.969940868	0.000656637	0.000604106	4.59183E-05	4.0564E-05	161244.258	14980.47624	48.31676032	10530879
South Coast AQMD	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregate	9999	Diesel	0.023507346	0.028443889	0.033850579	0.194401479	0.406355759	43.84998205	0.012872839	0.011843011	0.00040471	0.000357898	1422664.375	37807.86862	121.9422998	92914353
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	50	Diesel	9.77361E-06	1.18261E-05	1.4074E-05	0.000166865	0.000154923	0.026519032	5.60122E-06	5.15312E-06	2.44888E-07	2.16445E-07	860.3808018	1072.32153	3.451197165	50544.86
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	75	Diesel	0.000575374	0.000696203	0.000828539	0.012575871	0.011181167	1.99738579	0.000403804	0.000371499	1.84496E-05	1.63024E-05	64802.98224	58977.68413	189.8158441	4232289
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	100	Diesel	0.000966664	0.001169663	0.001391996	0.024267681	0.01875788	3.829736343	0.001108436	0.001019761	3.53788E-05	3.12578E-05	124251.578	86858.0439	279.5469704	8114883
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	175	Diesel	0.001350298	0.00163386	0.001944429	0.036884966	0.024907988	6.68657759	0.000989973	0.000910776	6.17802E-05	5.45749E-05	216938.646	100440.7833	323.2621345	14168285
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	300	Diesel	0.000874236	0.001057826	0.0012589	0.00935125	0.013263595	4.931797134	0.000447033	0.00041127	4.55707E-05	4.02527E-05	160006.7266	42892.86118	138.0478866	10450055
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	600	Diesel	0.001647731	0.001993755	0.002372733	0.01714302	0.027839144	9.328554974	0.001044372	0.000960823	8.61977E-05	7.61384E-05	302654.6926	47897.02832	154.1534734	19766408
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	750	Diesel	0.000825463	0.000998811	0.001188667	0.008677109	0.016224633	4.730538958	0.000670944	0.000617268	4.37114E-05	3.861E-05	153477.1267	14297.62039	46.01596221	10023607
South Coast AQMD	2021 Portable Equipment - Non-Rental Pump	Aggregate	9999	Diesel	0.000945377	0.001143906	0.001361343	0.00511222	0.02147954	2.698697203	0.00056508	0.000519874	2.49224E-05	2.20264E-05	87556.25865	4289.286118	13.80478866	5718308
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	50	Diesel	3.73247E-05	4.51629E-05	5.37476E-05	0.000860576	0.0006773	0.145417339	1.01788E-05	9.36453E-06	1.34334E-06	1.18688E-06	4717.905411	5400.077314	10.3535915	277163.1
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	75	Diesel	0.000158104	0.000191306	0.00022767	0.002800042	0.002359694	0.421480593	7.59263E-05	6.98522E-05	3.89205E-06	3.44007E-06	13674.47366	13800.19758	26.45917827	893081.3
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	100	Diesel	9.43737E-05	0.000114192	0.000135898	0.002650862	0.00150009	0.391819749	0.000108361	9.96922E-05	3.61974E-06	3.19798E-06	12712.16025	9600.137448	18.40638488	830232.5
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	175	Diesel	0.001491572	0.001804802	0.002147864	0.050439684	0.024985349	9.165200792	0.000753188	0.000692933	8.46921E-05	7.48051E-05	297354.846	137401.9672	263.4413836	19420275
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	300	Diesel	0.000870277	0.001053036	0.0012532	0.011195285	0.007155009	5.85564382	0.000281387	0.000258876	5.41122E-05	4.7793E-05	189979.9149	42600.60992	81.67833292	12407607
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	600	Diesel	0.013872777	0.01678606	0.019976799	0.157029142	0.152957897	82.42481596	0.006205961	0.005709484	0.000761642	0.00067274	2674182.379	310804.4499	595.9067106	1.75E+08
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	750	Diesel	0.001462673	0.001769834	0.002106249	0.016502204	0.012818004	8.453340536	0.000673787	0.000619884	7.81114E-05	6.8995E-05	274259.324	27600.39516	52.91835654	17911904
South Coast AQMD	2021 Portable Equipment - Rental Compressor	Aggregate	9999	Diesel	0.001205356	0.001458481	0.001735712	0.011743537	0.028593792	6.211277339	0.000658379	0.000605709	5.73902E-05	5.06956E-05	201518.0528	12000.17181	23.0079811	13161164
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	50	Diesel	3.19837E-05	3.87003E-05	4.60566E-05	0.000461987	0.000369357	0.044958924	1.92395E-05	1.77004E-05	4.14708E-07	3.66949E-07	1458.642784	1636.160003	1.150399055	85691
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	75	Diesel	0.007450887	0.009015573	0.010729277	0.110983851	0.09013894	15.32147466	0.003327804	0.003061579	0.000141431	0.000125052	497088.3717	477758.7208	335.9165241	32464892
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	100	Diesel	0.013978848	0.016914406	0.020129541	0.262417782	0.175346156	35.87924911	0.012648399	0.011636527	0.000331302	0.000292842	1164062.723	777176.0013	546.4395512	76025054
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	175	Diesel	0.020501848	0.024807236	0.029522661	0.432935699	0.215997984	69.37409726	0.00897641	0.008258297	0.000640783	0.000566222	2250766.184	976787.5216	686.7882359	1.47E+08
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	300	Diesel	0.04815167	0.05826352	0.069338405	0.31043478	0.422907455	141.731931	0.017159769	0.015786987	0.001308937	0.001156797	4598336.411	1160037.442	815.6329301	3E+08
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	600	Diesel	0.063865358	0.077277083	0.091966116	0.447526808	0.518581123	218.5730532	0.022734286	0.020915543	0.0020189	0.001783964	7091361.997	1079865.602	759.2633764	4.63E+08
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	750	Diesel	0.014517854	0.017566604	0.02090571	0.067294003	0.177597475	31.6685329	0.006698874	0.006162964	0.000292356	0.000258474	1027450.673	96533.44016	67.87354425	67102907
South Coast AQMD	2021 Portable Equipment - Rental Generator	Aggregate	9999	Diesel	0.129230914	0.156369406	0.186092516	0.817998564	2.183836922	401.7764139	0.063488129	0.058409079	0.003710745	0.003279245	13035193.27	654464.0011	460.1596221	8.51E+08
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	50	Diesel	9.17481E-05	0.000111015	0.000132117	0.001511248	0.001202579	0.182753005	4.44849E-05	4.09261E-05	1.68689E-06	1.49161E-06	5929.219973	8490.392728	6.902394331	348324.3
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	75	Diesel	0.002848195	0.003446316	0.004101401	0.056377294	0.043001676	8.471934106	0.000788365	0.000725296	7.82418E-05	6.91468E-05	274862.5719	239146.0619	194.4174403	17951302
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	100	Diesel	0.001270672	0.001537513	0.001829768	0.033660635	0.014497035	4.495840187	0.001196587	0.00110086	4.15282E-05	3.66944E-05	145862.5836	103299.7782	83.97913103	9526300
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	175	Diesel	0.005841701	0.007068458	0.008412049	0.147030286	0.062146439	24.64282839	0.002368167	0.002178714	0.00022766	0.000201131	799509.428	376407.411	306.0061487	52216041
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	300	Diesel	0.005989077	0.007246783	0.008624271	0.036912796	0.0532638	16.37865289	0.002103619	0.00193533	0.000151249	0.00013368	531387.3552	138676.4146	112.7391074	34704962
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	600	Diesel	0.004062838	0.004916034	0.005850487	0.026370139	0.036321076	12.84255951	0.001485676	0.001366822	0.000118614	0.000104819	416662.6998	65093.01092	52.91835654	27212283
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	750	Diesel	0.002340255	0.002831709	0.003369967	0.018472295	0.021426018	9.220424693	0.001135045	0.001044242	8.51772E-05	7.52559E-05	299146.5247	28301.30909	23.0079811	19537290
South Coast AQMD	2021 Portable Equipment - Rental Other Portable Equipment	Aggregate	9999	Diesel	0.002948967	0.00356825	0.004246513	0.017674926	0.047341321	8.597148886	0.001382352	0.001271764	7.93964E-05	7.01688E-05	278925.0276	14150.65455	11.50399055	18216622
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	50	Diesel	3.32624E-05	4.02475E-05	4.78978E-05	0.000327622	0.000275925	0.030334059	1.97228E-05	1.8145E-05	2.79456E-07	2.47583E-07	984.1551263	1103.92707	1.150399055	57816.24
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	75	Diesel	0.00119972	0.001451661	0.001727596	0.025521728	0.02127224	3.923695618	0.00083923	0.000772092	3.62405E-05	3.20247E-05	127299.9832	110392.707	115.0399055	8313975
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	100	Diesel	0.002306183	0.002790481	0.003320903	0.043800653	0.030773298	6.021972343	0.002196639	0.002020908	5.56069E-05	4.91505E-05	195376.2607	145718.3732	151.8526753	12760043
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	175	Diesel	0.003102584	0.003754127	0.004467721	0.063746194	0.034094291	10.19178573	0.001564285	0.001439142	9.4135E-05	8.3184E-05	330661.2636	143510.5191	149.5518772	21595520
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	300	Diesel	0.003745029	0.004531486	0.005392842	0.032070463	0.03116075	15.38427026	0.001210701	0.001113845	0.000142123	0.000125564	499125.7059	117016.2694	121.9422998	32597950
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	600	Diesel	0.004452236	0.005387205	0.006411219	0.042296388	0.040302723	21.82207794	0.001762054	0.001621089	0.000201622	0.000178109	707993.286	117016.2694	121.9422998	46239113
South Coast AQMD	2021 Portable Equipment - Rental Pump	Aggregate	750	Diesel	0.000884942	0.00107078	0.001274317	0.004590395	0.010285151	2.216697024	0.000438343	0.000403276	2.04679E-05	1.80924E-05	71918.29368	6623.562418	6.902394331	4696991
South Coast AQMD	2021 TRU - Instate Genset TRU	Aggregate	50	Diesel	0.010853331	0.01313253	0.015628796	0.212179262	0.160348956	4.438707227	0.000703095	0.000646848	4.09877E-05	3.64711E-05	2817.530558	1697363.593	2174.098448	53466953
South Coast AQMD	2021 TRU - Instate Trailer TRU	Aggregate	50	Diesel	0.213356529	0.2581614	0.307233402	3.234722856	2.204890996	52.15724544	0.038551473	0.035467355	0.000479053	0.000428556	33107.53003	13256252.7	10005.60273	4.51E+08
South Coast AQMD	2021 TRU - Instate Truck TRU	Aggregate	25	Diesel	0.030226422	0.03657397	0.043526048	0.295375765	0.35494978	7.085852538	0.014558134	0.013393484	6.50448E-05	5.82217E-05	4497.842509	3567203.179	2621.016296	50297565
South Coast AQMD	2021 TRU - Instate Van TRU	Aggregate	25	Diesel	0.000699763	0.000846713	0.001007658	0.006838156	0.008217336	0.164042447	0.000337031	0.000310069	1.50583E-06	1.34787E-06	104.1282027	129380.4262	95.06276721	1164424

South Coast AQMD	2021	TRU - Out-of-State Genset TRU	Aggregate	50	Diesel	0.006788761	0.0082144	0.009775815	0.133218666	0.100941064	2.796950259	0.000441257	0.000405957	2.5829E-05	2.29815E-05	1775.402706	1069555.007	8650.283522	33690983
South Coast AQMD	2021	TRU - Out-of-State Trailer TRU	Aggregate	50	Diesel	0.112759143	0.136438563	0.162373166	1.868500531	1.276456411	32.3719358	0.011108447	0.010219771	0.000297919	0.000265988	20548.53218	8227630.843	39212.10639	2.8E+08
South Coast AQMD	2021	TRU - Railcar TRU	Aggregate	50	Diesel	0.011672024	0.014123149	0.016807714	0.193413875	0.132129682	3.350912378	0.001149867	0.001057878	3.08385E-05	2.75331E-05	2127.037792	851665.7826	2641.397459	28956637

EMFAC Fuel Usage: Year 2021

Vehicle type	GAS			DSL			NG			Electricity
	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day
All other buses	0	0	0.00	196,127	19,558	10.03	0	0	0.00	0
LDA	251,960,829	8,387,380	30.04	2,235,698	47,113	47.45	0	0	0.00	4,288,812
LDT1	26,787,165	1,037,925	25.81	9,769	438	22.31	0	0	0.00	150,723
LDT2	84,313,979	3,539,718	23.82	562,270	16,217	34.67	0	0	0.00	567,119
LHD1	6,390,714	613,123	10.42	4,621,741	217,539	21.25	0	0	0.00	0
LHD2	1,046,372	115,282	9.08	1,781,626	92,764	19.21	0	0	0.00	0
MCY	2,034,868	55,847	36.44	0	0	0.00	0	0	0.00	0
MDV	56,209,460	2,900,982	19.38	1,257,908	47,290	26.60	0	0	0.00	256,086
MH	336,910	66,317	5.08	120,326	11,502	10.46	0	0	0.00	0
Motor coach	0	0	0.00	121,777	19,096	6.38	0	0	0.00	0
OBUS	256,431	51,528	4.98	0	0	0.00	0	0	0.00	0
PTO	0	0	0.00	184,277	37,779	4.88	0	0	0.00	0
SBUS	102,530	11,326	9.05	208,178	27,677	7.52	0	0	0.00	0
T6	1,374,105	274,065	5.01	7,755,176	747,906	10.37	0	0	0.00	0
T7	7,779	1,923	4.05	12,913,822	1,957,431	6.60	192,520	87,659	2.20	0
UBUS	88,729	18,456	4.81	1,478	247	5.99	590,314	148,499	3.98	1,343
Total	**430,909,871**	**17,073,873**	**25.24**	**31,970,173**	**3,242,556**	**9.86**	**782,834**	**236,158**	**3.31**	**5,264,083**

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
South Coast AQMI	2021	All Other Buses	Aggregate	Aggregate	DSL	3313.620284	196127.2167	27834.41038	19.55784389
South Coast AQMI	2021	LDA	Aggregate	Aggregate	GAS	6444755.127	251960829.1	30445138.88	8387.380278
South Coast AQMI	2021	LDA	Aggregate	Aggregate	DSL	55086.24147	2235697.578	261421.0655	47.11272746
South Coast AQMI	2021	LDA	Aggregate	Aggregate	ELEC	107407.0659	4288811.557	537483.7872	0
South Coast AQMI	2021	LDT1	Aggregate	Aggregate	GAS	715053.1646	26787165.5	3291669.777	1037.925125
South Coast AQMI	2021	LDT1	Aggregate	Aggregate	DSL	416.2373741	9768.779686	1451.630325	0.437770233
South Coast AQMI	2021	LDT1	Aggregate	Aggregate	ELEC	3765.99891	150723.395	18801.15656	0
South Coast AQMI	2021	LDT2	Aggregate	Aggregate	GAS	2207488.781	84313978.67	10346294.88	3539.718304
South Coast AQMI	2021	LDT2	Aggregate	Aggregate	DSL	12809.41089	562270.3473	63393.99266	16.21724475
South Coast AQMI	2021	LDT2	Aggregate	Aggregate	ELEC	17082.5036	567118.9552	86612.02796	0
South Coast AQMI	2021	LHD1	Aggregate	Aggregate	GAS	176982.3964	6390713.726	2636774.003	613.1229263
South Coast AQMI	2021	LHD1	Aggregate	Aggregate	DSL	113082.0724	4621741.237	1422430.214	217.5386805
South Coast AQMI	2021	LHD2	Aggregate	Aggregate	GAS	29883.23489	1046372.376	445215.6738	115.2817475
South Coast AQMI	2021	LHD2	Aggregate	Aggregate	DSL	44616.36938	1781625.741	561217.7994	92.76392215
South Coast AQMI	2021	MCY	Aggregate	Aggregate	GAS	286160.563	2034867.698	572321.1261	55.84676856
South Coast AQMI	2021	MDV	Aggregate	Aggregate	GAS	1569537.874	56209459.55	7250478.016	2900.982374
South Coast AQMI	2021	MDV	Aggregate	Aggregate	DSL	30443.59786	1257907.778	149745.6331	47.28975805
South Coast AQMI	2021	MDV	Aggregate	Aggregate	ELEC	7447.232895	256086.1071	38184.47758	0
South Coast AQMI	2021	MH	Aggregate	Aggregate	GAS	35586.60056	336910.0236	3560.08352	66.31669317
South Coast AQMI	2021	MH	Aggregate	Aggregate	DSL	12385.96705	120326.0615	1238.596705	11.5017579
South Coast AQMI	2021	Motor Coach	Aggregate	Aggregate	DSL	936.7180133	121777.4852	13676.08299	19.095862
South Coast AQMI	2021	OBUS	Aggregate	Aggregate	GAS	5971.380603	256430.9176	119475.3831	51.52781599
South Coast AQMI	2021	PTO	Aggregate	Aggregate	DSL	0	184277.0663	0	37.77924686
South Coast AQMI	2021	SBUS	Aggregate	Aggregate	GAS	2478.674789	102530.0329	9914.699156	11.32626665
South Coast AQMI	2021	SBUS	Aggregate	Aggregate	DSL	6588.549248	208177.801	76030.94486	27.67710054
South Coast AQMI	2021	T6 Ag	Aggregate	Aggregate	DSL	22.85219443	295.9499337	100.5496555	0.03331492
South Coast AQMI	2021	T6 CAIRP heavy	Aggregate	Aggregate	DSL	553.9909057	109271.7981	8088.267223	9.57657839
South Coast AQMI	2021	T6 CAIRP small	Aggregate	Aggregate	DSL	290.6444949	15244.08207	4243.409626	1.420660498
South Coast AQMI	2021	T6 instate constructio	Aggregate	Aggregate	DSL	4437.44508	301960.5176	20061.51668	30.27097921
South Coast AQMI	2021	T6 instate constructio	Aggregate	Aggregate	DSL	15142.85734	783531.3116	68460.26926	77.50037708
South Coast AQMI	2021	T6 instate heavy	Aggregate	Aggregate	DSL	19458.60514	2637090.961	224549.6055	244.2126592
South Coast AQMI	2021	T6 instate small	Aggregate	Aggregate	DSL	73641.89125	3701851.926	849817.215	362.4172167
South Coast AQMI	2021	T6 OOS heavy	Aggregate	Aggregate	DSL	315.3567479	62634.7864	4604.208519	5.48224883
South Coast AQMI	2021	T6 OOS small	Aggregate	Aggregate	DSL	168.9205063	8782.744179	2466.239392	0.819435315
South Coast AQMI	2021	T6 Public	Aggregate	Aggregate	DSL	6848.473225	105431.3592	20773.7021	13.16930467
South Coast AQMI	2021	T6 utility	Aggregate	Aggregate	DSL	1727.884548	29080.11602	19870.6723	3.003492605
South Coast AQMI	2021	T6TS	Aggregate	Aggregate	GAS	25312.94647	1374104.99	506461.4329	274.0654525
South Coast AQMI	2021	T7 Ag	Aggregate	Aggregate	DSL	15.35528183	233.1908321	67.56324004	0.041182328
South Coast AQMI	2021	T7 CAIRP	Aggregate	Aggregate	DSL	12695.33301	2254494.031	185351.862	327.7831802
South Coast AQMI	2021	T7 CAIRP constructior	Aggregate	Aggregate	DSL	1200.356018	216900.8628	5426.762887	29.82955221
South Coast AQMI	2021	T7 NNOOS	Aggregate	Aggregate	DSL	13700.8957	2748390.744	200033.0772	383.7779979
South Coast AQMI	2021	T7 NOOS	Aggregate	Aggregate	DSL	4984.814753	885784.3618	72778.2954	131.8797165
South Coast AQMI	2021	T7 POLA	Aggregate	Aggregate	DSL	13972.3405	1763019.447	106189.7878	305.1567273
South Coast AQMI	2021	T7 Public	Aggregate	Aggregate	DSL	8362.274492	169425.2438	25365.56593	29.48961577
South Coast AQMI	2021	T7 Single	Aggregate	Aggregate	DSL	13219.9658	928056.1397	152556.5725	141.4001547
South Coast AQMI	2021	T7 single construction	Aggregate	Aggregate	DSL	7652.776468	538091.1461	34597.90487	81.75636127
South Coast AQMI	2021	T7 SWCV	Aggregate	Aggregate	DSL	2417.805971	98787.63455	9429.443288	48.60247853
South Coast AQMI	2021	T7 SWCV	Aggregate	Aggregate	NG	4728.677954	192520.0593	18441.84402	87.65918503
South Coast AQMI	2021	T7 tractor	Aggregate	Aggregate	DSL	21110.23019	2852684.512	268099.9234	407.5928615
South Coast AQMI	2021	T7 tractor constructio	Aggregate	Aggregate	DSL	6390.521815	443877.8215	28891.30066	67.90395556
South Coast AQMI	2021	T7 utility	Aggregate	Aggregate	DSL	693.8552226	14077.3145	7979.33506	2.21745907
South Coast AQMI	2021	T7IS	Aggregate	Aggregate	GAS	82.02365392	7779.478841	1641.129268	1.923014316
South Coast AQMI	2021	UBUS	Aggregate	Aggregate	GAS	943.9678376	88729.36464	3775.87135	18.45610299
South Coast AQMI	2021	UBUS	Aggregate	Aggregate	DSL	14.14141831	1478.085683	56.56567323	0.246796198
South Coast AQMI	2021	UBUS	Aggregate	Aggregate	ELEC	17.11693886	1343.18541	68.46775545	0
South Coast AQMI	2021	UBUS	Aggregate	Aggregate	NG	5362.039124	590313.6899	21448.15649	148.4992624

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