South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765
(909) 396-2000, www.aqmd.gov

MOBILE SOURCE COMMITTEE MEETING

Committee Members
Dr. William A. Burke, Chair
Supervisor Lisa Bartlett
Mayor Pro Tem Larry McCallon
Mayor Judith Mitchell
Supervisor V. Manuel Perez
Supervisor Janice Rutherford

November 15, 2019 ♦ 9:00 a.m. ♦ CC8
21865 Copley Drive, Diamond Bar, CA 91765

TELECONFERENCE LOCATIONS

11461 West Sunset Boulevard
The Malibu Room
Los Angeles, CA 90049

73710 Fred Waring Drive
Suite 222
Palm Desert, CA 92260

(The public may attend at any location listed above.)

Call-in for listening purposes only is available by dialing:
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http://www.aqmd.gov/home/library/webcasts

AGENDA

Members of the public may address this body concerning any agenda item before or during consideration of that item (Gov't. Code Section 54854.3(a)). Please provide a Request to Address the Committee card to the Committee Secretary if you wish to address the Committee on an agenda item. If no cards are available, please notify South Coast AQMD staff or a Board Member of your desire to speak. All agendas for regular meetings are posted at South Coast AQMD Headquarters, 21865 Copley Drive, Diamond Bar, California, at least 72 hours in advance of the regular meeting. Speakers may be limited to three (3) minutes each.

CALL TO ORDER

INFORMATIONAL ITEMS (Items 1-2)

1. Update on Facility-Based Mobile Source Measure for Commercial Airports
(No Motion Required)
Zorik Pirveysian
Planning & Rules Manager

Staff will provide an update on the Facility-Based Mobile Source Measure for Commercial Airports. All five commercial airports have developed their own AQIPs or Air Quality Improvement Measures (AQIM) for non-aircraft airport emissions. The draft MOUs specify State Implementation Plan (SIP) creditable AQIP or AQIM measures, which the airports agree to implement. In addition, the airports will provide annual reports to South Coast AQMD. South Coast AQMD is making an enforceable commitment to U.S. EPA to achieve the emission reductions associated with implementation of these measures and seeks to obtain SIP credits.

2. Update on Contingency Measure Plan for the 1997 8-Hour Ozone Standard
(No Motion Required)
Sarah Rees
Assistant Deputy Executive Officer

The South Coast Air Basin (SCAB) is classified as an Extreme nonattainment area for the 1997 8-hour ozone national ambient air quality standard (NAAQS), with an attainment date of June 15, 2024. The attainment strategy in the 2016 AQMP includes both defined measures as well as "further deployment of cleaner technologies" measures, as allowed under the federal Clean Air Act (CAA) section 182(e)(5). Under CAA requirements, development and adoption of contingency measures are required no later than three years before the attainment date. The Contingency Measure Plan represents a joint strategy by South Coast AQMD and CARB for addressing the contingency measure requirements of CAA section 182(e)(5) for the 1997 8-hour ozone NAAQS for the SCAB.

WRITTEN REPORTS (Items 3-4)

3. Rule 2202 Activity Report: Rule 2202 Summary Status Report
(No Motion Required)
Philip Fine
Deputy Executive Officer

The Rule 2202 Summary Status Report summarizes Rule 2202 activities for the period January 1, 2019 to October 31, 2019. The report identifies the plan submittal activities by option type and lists Air Quality Investment Program funds collected by county.

4. Lead Agency Projects and Environmental Documents Received
(No Motion Required)
Philip Fine

This report provides a listing of CEQA documents received by the South Coast AQMD between October 1, 2019 and October 31, 2019, and those projects for which the South Coast AQMD is acting as lead agency pursuant to CEQA.

OTHER MATTERS

5. Other Business

Any member of the Committee, or its staff, on his or her own initiative or in response to questions posed by the public, may ask a question for clarification, may make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter, or may take action to direct staff to place a matter of business on a future agenda. (Gov't. Code Section 54954.2)

6. Public Comment Period

At the end of the regular meeting agenda, an opportunity is provided for the public to speak on any subject within the Committee's authority that is not on the agenda. Speakers may be limited to three (3) minutes each.

7. Next Meeting Date: Friday, January 24, 2020 at 9:00 am

ADJOURNMENT

Americans with Disabilities Act

The agenda and documents in the agenda packet will be made available, upon request, in appropriate alternative formats to assist persons with a disability (Gov't. Code Section 54954.2(a)). Disability-related accommodations will also be made available to allow participation in the Mobile Source Committee meeting. Any accommodations must be requested as soon as practicable. Requests will be accommodated to the extent feasible. Please contact Angela Kim at 909.396.2590 from 7:30 a.m. to 6:00 p.m., Tuesday through Friday, or send the request to akim@aqmd.gov.

Document Availability

All documents (i) constituting non-exempt public records, (ii) relating to an item on an agenda for a regular meeting, and (iii) having been distributed to at least a majority of the Committee after the agenda is posted, are available prior to the meeting for public review at the South Coast Air Quality Management District, Public Information Center, 21865 Copley Drive, Diamond Bar, CA 91765.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

~~Preliminary~~ Draft Staff Report
Facility-Based Mobile Source Measure for Commercial Airports

~~September~~November 2019

Deputy Executive Officer
Planning, Rule Development, and Area Sources
Philip M. Fine, Ph.D.

Assistant Deputy Executive Officer
Planning, Rule Development, and Area Sources
Sarah L. Rees, Ph.D.

Planning and Rules Manager
Planning, Rule Development, and Area Sources
Zorik Pirveysian

Authors:	Sang-Mi Lee, Ph.D. – Program Supervisor Xinqiu Zhang, Ph.D. – Sr. Staff Specialist Andrew Yoon, Ph.D. – Air Quality Specialist Eric Praske, Ph.D. – Air Quality Specialist
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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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Supervisor, Second District
County of San Bernardino

VACANT
Governor's Appointee

EXECUTIVE OFFICER:

WAYNE NASTRI

Table of Contents

Executive Summary

The 2016 Air Quality Management Plan (AQMP) is the latest regional blue print for achieving the federal and state air quality standards in the South Coast Air Basin (Basin). Based on the analysis in the 2016 AQMP ~~analysis~~, significant additional NOx reductions beyond what will be achieved through existing regulations are needed to achieve the federal 8-hour ozone standards in the Basin – a 45% ~~reduction beyond baseline levels in 2023 and~~ and 55% reduction beyond baseline levels in 2023 and 2031~~.~~, respectively. Controlling mobile source emissions ~~are~~is key to achieving these targets, as mobile sources comprise over 80% of Basin NOx emissions and are the largest contributor to the region's ozone problem. The Facility-Based Mobile Source Measures included in the 2016 AQMP are South Coast AQMD's proposed mobile source measures covering marine ports (MOB-01), railyards (MOB-02), warehouse/distribution centers (MOB-03), commercial airports (MOB-04), and new development and redevelopment projects (EGM-01). These measures are intended to help achieve the emission reductions attributed to CARB's Further Deployment of Cleaner Technology measures by reducing emissions from these facilities through South Coast AQMD's actions (e.g., indirect source rules or other programs).

The Facility-Based Mobile Source Measure (FBMSM) for Commercial Airports implements the 2016 AQMP Control Measure MOB-04, Emission Reductions at Commercial Airports. This measure applies to Los Angeles International Airport (LAX), John Wayne Orange County Airport (SNA), Hollywood Burbank Airport (BUR), Ontario International Airport (ONT), and Long Beach Airport (LGB). Following the adoption of the 2016 AQMP, staff conducted 17 working ~~groups~~group meetings to address the FBMSM sectors during a year-long public process. Based on the working group discussions, staff recommended that South Coast AQMD pursue a voluntary Memorandum of Understanding (MOU) approach for commercial airports.

On May 4, 2018, the Board considered staff's recommendations for all FBMSMs and provided specific direction regarding both regulatory and voluntary approaches. For commercial airports, the Board approved staff's recommendation to pursue a voluntary MOU approach based on the airports' development of Air Quality Improvement Plans/Measures (AQIP or AQIM) for non-aircraft emissions. Following the Board's direction, South Coast AQMD established a new Airports MOU working group for the purpose of developing MOUs with individual commercial airports based on their respective AQIPs/AQIMs. All five commercial airports committed to preparing their own AQIPs/AQIMs and developing MOUs with South Coast AQMD.

Since that time, South Coast AQMD staff has conducted four working group meetings. During this process, staff has communicated regularly with airport representatives and their consultants to provide technical support regarding emission calculation methodologies for base and future years' emissions inventories. In addition, staff has reviewed the airports' preliminary emission inventory data, draft AQIPs or AQIM emission reduction measures and initiatives, and assisted with the development of draft MOUs.

As part of the MOU process, each airport has developed its own AQIP or AQIM with specific measures and initiatives. The AQIPs (or AQIMs) represent the airports' comprehensive plans to reduce emissions from non-aircraft mobile sources related to airport operations (e.g., ground

support equipment, shuttle buses, delivery trucks)[1]. In general, a measure represents a program in which the airport ~~commits~~agrees to a well-defined course of action with known emission reductions, while an initiative represents an objective that the airport intends to pursue, but the emission reductions are not readily quantifiable. The AQIPs/AQIMs also include the 2017 baseline emissions as well as emissions forecasts in 2023 and 2031 under business as usual (BAU) and AQIP/AQIM implementation scenarios.

Based on the draft AQIPs/AQIMs developed by the five commercial airports, draft MOUs have been developed for each of the five commercial airports. The MOUs represent voluntary agreements between South Coast AQMD and each commercial airport, with each party having specific responsibilities and commitments. The purpose of the ~~MOU~~MOUs is to quantify the emission reduction benefits associated with the implementation of the airports' AQIP/AQIM strategies that are eligible for SIP credits. Each MOU includes schedules for the eligible SIP creditable AQIP/AQIM measures that specify the metrics, performance targets, timeline for implementation, and the details of the annual reports to be prepared by the airports and submitted to South Coast AQMD.

Under the MOUs, the airports ~~commit~~agree to implement the AQIP/AQIM measures eligible for SIP credit and achieve the performance targets in these measures. The airports also ~~commit~~agree to provide annual reports to South Coast AQMD, by June 1st of each year beginning in 2021 and through the end of the MOU term in 2031, on the implementation of these measures, including detailed equipment/vehicle data and emissions inventories with supporting methodology and calculations for emission benefits. South Coast AQMD ~~commits~~agrees to quantify the corresponding SIP emission reductions associated with these AQIP/AQIM measures in the MOUs and to make an enforceable commitment for these reductions to U.S. EPA for inclusion into the SIP. Based on the annual reports submitted by the airports, South Coast AQMD will also quantify the actual emission reductions for these measures for the attainment milestone years (2023 and 2031) and prepare and submit the necessary documentation to U.S. EPA for tracking these reductions. South Coast AQMD also ~~commits~~agrees to ensure that the relevant data including the AQIPs/AQIM, MOUs, annual reports submitted by the airports, and South Coast AQMD's reports to U.S. EPA are accessible to the public.

In the event that the actual emission reductions from the implementation of the AQIP/AQIM measures specified in the MOUs are less than the projected emission reduction benefits, South Coast AQMD will be responsible for achieving the reduction shortfall. In such instances, South Coast AQMD also ~~commits~~agrees to adopt and submit substitute measures to U.S. EPA to meet the shortfall, working in conjunction with the airports and other stakeholders. A public process will be initiated to facilitate the consideration of potential new or enhanced programs, or better efforts to quantify existing programs, to help South Coast AQMD meet any shortfall.

In order for emission reductions from the AQIP/AQIM measures specified in the MOUs to be eligible for SIP credit, these reductions need to meet the U.S. EPA's guidelines. These guidelines require that the emission reductions meet U.S. EPA's integrity elements (i.e., reductions must be surplus, quantifiable, permanent, and enforceable), and have federally enforceable backstop commitments, technical support, funding, legal authority, public disclosure, and provisions to

[1] Aircraft emissions are not covered in the AQIPs/AQIM/MOUs because of federal jurisdiction over aircraft.

assess progress. The emission reductions associated with implementation of the AQIP/AQIM measures included in the five MOUs with the commercial airports meet these requirements as described in this staff report.

The FBMSM for Commercial Airports is expected to achieve 0.52 and 0.~~38~~37 tons per day of NOx emission reductions in 2023 and 2031, respectively, based on the airports implementation of AQIP/AQIM measures in the MOUs. While these emission reductions are modest, there are other AQIP/AQIM measures that airports are implementing that will result in emission reductions that may not be easily quantifiable or SIP creditable.

The draft ~~AQIPs/AQIM/~~MOUs for all five commercial airports are attached to the staff report. Each airport has its own public process and approval process for the draft AQIPs/AQIM and MOUs by its respective airport authority. Following South Coast AQMD's public process and the airports' approval of the MOUs, the FBMSM for Commercial Airports ~~including the (~~draft MOUs with the commercial airports and ~~the~~South Coast AQMD's enforceable commitment to backstop any emission reduction shortfall) will be considered by the South Coast AQMD Governing Board for approval.

Chapter 1: Background

Introduction
Airports MOU Working Group Activities
Regulatory Background
U.S. EPA's Requirements for SIP Emission Reduction Credits

Introduction

The 2016 Air Quality Management Plan (AQMP), adopted by the South Coast Air Quality Management District (South Coast AQMD) Governing Board in March 2017, is the latest regional blue print for achieving the federal and state air quality standards in the South Coast Air Basin (Basin). Based on the 2016 ~~AQMP~~AQMP's analysis, significant additional NOx reductions beyond existing regulations are needed to achieve the federal 8-hour ozone standards in the Basin (45% in 2023 and 55% in 2031). In addition to California Air Resources Board's (CARB's) State strategy, the 2016 AQMP also included mobile source measures proposed by South Coast AQMD including Facility-Based Mobile Source Measures (FBMSMs). FBMSMs cover facilities including ports (MOB-01), railyards (MOB-02), warehouse/distribution centers (MOB-03), commercial airports (MOB-04), and new development and redevelopment projects (EGM-01). These measures are intended to help achieve some of the emission reductions attributed to CARB's Further Deployment of Cleaner Technology measures by reducing emissions from these facilities through South Coast AQMD's actions (e.g., indirect source regulations, other programs).

MOB-04, Emission Reductions at Commercial Airports, applies to commercial airports located within the Basin. These include Los Angeles International Airport (LAX), John Wayne Orange County Airport (SNA), Hollywood Burbank Airport (BUR), Ontario International Airport (ONT), and Long Beach Airport (LGB). During the 2016 AQMP adoption, the South Coast AQMD Board (Board) approved a motion to amend MOB-04 and directed staff to "*Undertake a stakeholder process and draft for our consideration an indirect source rule for commercial airports within the South Coast Basin by February 1, 2019 to control emissions of NOx, PM2.5, lead and diesel particulate matter from non-aircraft sources*~~".~~." The Board discussion accompanying this amendment provided further direction, including a desire to let the airports prepare their own airport-specific Clean Air Action Plans (AirCAAPs). The Board would then consider this information to determine the level of control in any proposed Indirect Source Rule (ISR).

Following the adoption of the 2016 AQMP, staff initiated several working groups to address the FBMSM sectors including the commercial airports. During the year-long period, South Coast AQMD staff conducted 17 Working Group Meetings covering all five sectors. Some of the key topics discussed during the Working Group meetings included: 1) a framework for developing FBMSMs, 2) potential methods for obtaining SIP credit for voluntary measures, and 3) potential voluntary and regulatory emission reduction strategies for each facility sector. Based on working group discussions, South Coast AQMD Staff recommended that the Governing Board pursue a voluntary MOU approach for commercial airports because of the limited emissions reductions that would be available from the non-aircraft mobile sources operating at the airports, federal preemption of aircraft standards, existing emission reduction programs, and the potential willingness of airports to enter into cooperative agreements ~~were the additional reasons to purse a voluntary approach~~.

On May 4, 2018, ~~the~~South Coast AQMD's Board considered staff's recommendations for all FBMSMs and provided specific ~~directions~~direction regarding both regulatory and voluntary

approaches.[2] For commercial airports, the Board approved staff's recommendation to pursue a voluntary Memorandum of Understanding (MOU) approach (instead of an ISR approach) based on the ~~airports~~airports' willingness to develop airport-specific Air Quality Improvement Plans/Measures (AQIP or AQIM), and the fact that commercial airports contribute only about 8 tons per day of NOx (absent aircraft emissions). However, in the event that the MOU approach ~~is~~was not successful, staff ~~will~~ was directed to report back to the Board and recommend ~~consideration of~~ an airport ISR for the Board's consideration.

A. Airports MOU Working Group Activities

Following the May 2018 Board direction, South Coast AQMD established a new Airports MOU working group for the purpose of developing MOUs with individual commercial airports based on their respective AQIPs/~~AQIM~~AQIMs. The working group consisted of representatives from South Coast AQMD, five commercial airports, commercial airlines, the California Airports Council, CARB, U.S. Environmental Protection Agency (U.S. EPA), environmental organizations, freight industries, and other stakeholders. All five commercial airports concurred with the MOU approach and committed to develop individual MOUs with South Coast AQMD based on their respective AQIPs/~~AQIM~~AQIMs. Since the establishment of the working group, South Coast AQMD staff has conducted four working group meetings, which are summarized below. During this process, South Coast AQMD staff communicated regularly with airport representatives and their consultants to provide technical support on emission calculation methodologies for ~~base~~baseline and future years' emissions inventories, review preliminary emission inventory data, review draft AQIPs/AQIMs and proposed strategies, and develop draft MOUs.

During the first Airports MOU Working Group meeting ~~#1, held on February 28, 2019.,~~[3] group members discussed the framework and key principles of the MOU, the process of the MOU development, and the specific commitments required by the airports and South Coast AQMD to develop and implement the MOUs. The working group members were advised on the tight timeline for MOU development to accommodate South Coast AQMD's December 2019 deadline to address Further Deployment of Cleaner Technology measures (Section 182(e)(5) measures) included in the 1997 8-hour ozone attainment strategy~~, by the end of 2019.~~. Staff clarified that airports would develop their own respective AQIPs/~~AQIM~~AQIMs, which would represent the airports' best efforts to develop programs and strategies for reducing emissions from airport operations based on their existing authority over non-aircraft mobile source emissions. The AQIP/AQIM would then be used as the basis for the MOUs between South Coast AQMD and the airports. All five commercial airports confirmed their commitment to develop their own AQIPs/~~AQIM~~AQIMs and their willingness to enter into MOUs with South Coast AQMD. California Airports Council provided updates on the development of AQIPs/~~AQIM~~AQIMs on behalf of the airports. Staff discussed the U.S. EPA's integrity elements (i.e., emission reductions must quantifiable, permanent, surplus, and enforceable) and other requirements for emission reductions from AQIP/AQIM measures to be eligible for SIP credits. Staff also offered technical

[2] *Potential Strategies for Facility-Based Mobile Source Measures Adopted in 2016 AQMP* (http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-may4-032.pdf?sfvrsn=2)
[3] Held February 28, 2019.

assistance to the airports in their development of emissions inventories and methodologies to estimate emission reduction benefits.

At the second Airports MOU working Group meeting ~~#2, held on May 8, 2019,~~,[4] staff provided an update on the MOU development, reiterating that the AQIPs/~~AQIM~~AQIMs would serve as the basis for the MOUs and that staff would provide technical assistance in the quantification of emissions benefits for the purpose of obtaining SIP credits. Staff requested that the airports provide detailed emissions inventories for all non-aircraft mobile source emissions associated with airport operations that are under direct or indirect airport control. These sources include, but are not limited to, ground support equipment (GSE), trucks, off-road equipment/vehicles, and on-road vehicles (e.g., shuttles, buses, passenger vehicles). The truck category includes cargo trucks, delivery, and utility/service trucks. Inclusion of aircraft emissions in the ~~AQIP/AQIM~~AQIPs/AQIMs was mentioned as an option that airports could include at their discretion. For all AQIP/AQIM emission sources, the emissions inventories would include the 2017 baseline, as well as 2023 and 2031 future milestone years. For the future years, staff requested that airports provide business as usual (BAU) and AQIP/AQIM emissions forecasts. The latter was meant to reflect emission reductions due to the implementation of the AQIP/AQIM measures. Staff also discussed the responsibilities of the airports and South Coast AQMD under the MOUs. Representatives from each of the commercial airports presented their preliminary AQIP/AQIM measures under development, and their schedule and public process for AQIP/AQIM/MOU adoption by their respective airport authority consistent with South Coast AQMD's schedule for a public hearing in late 2019.

The third Airports MOU Working Group meeting ~~#3, held on July 18, 2019,~~[5] focused primarily on the presentations made by airport representatives regarding more details on the development of their AQIPs/~~AQIM~~AQIMs. The presentations were largely focused on the proposed AQIP/AQIM measures and initiatives including preliminary targets being considered by the airports. Staff provided suggestions and comments on the draft AQIPs/~~AQIM~~AQIMs and encouraged airports to consider stringent performance targets for all non-aircraft sources ~~which~~that were technically feasible and cost-effective through airport programs (e.g., requirements, incentives). The airports re-iterated their commitments to further refine their draft AQIPs/~~AQIM~~AQIMs and also work with South Coast AQMD on developing draft MOUs through both the airport and South Coast AQMD's public processes.

~~The Airports MOU Working Group meeting #4 will be held on October 15, 2019. South Coast AQMD staff will also conduct~~The fourth Airports MOU Working Group meeting was held on October 15, 2019. At this meeting, staff presented the following items: draft AQIP/AQIM prepared by the airports, draft MOUs developed by South Coast AQMD and the airports, specific AQIP/AQIM measures with SIP creditable emissions reductions included in the MOUs, and potential SIP credit emission reductions for MOU measures in 2023 and 2031, which represents South Coast AQMD's enforceable commitment. Each airport also provided the timeline for the MOU adoption according to its own public process. In addition, the airports' annual reporting requirements for GSE MOU measures including the annual operating data and information on replaced GSE were discussed. South Coast AQMD staff also conducted a public consultation

[4] Held May 8, 2019.
[5] Held July 18, 2019.

meeting on October 10, 2019 at the South Coast AQMD headquarters. Responses to the comments received ~~will be~~are incorporated into the staff report. Additional changes to the GSE MOU measures on the annual operating data and information on GSE being retired, sold, or relocated within the Basin were identified based on comments received at the working group meeting and the public consultation meeting (refer to draft MOUs in Appendix A). The airport authorities will consider approval of the Draft MOUs with South Coast AQMD in October and November 2019. The South Coast AQMD Governing Board will consider approval of the FBMSM for Commercial Airports at its December 6, 2019 meeting.

B. Regulatory Background

This section provides a brief summary of the existing and proposed CARB and South Coast AQMD regulations affecting non-aircraft on-road and off-road mobile emission sources related to airport operations. In order for AQIP/AQIM emission reductions to be SIP creditable, these reductions have to be surplus to existing regulations.

South Coast AQMD's Fleet Rules

South Coast AQMD's fleet rules apply to several vehicle categories operating at airports. Rule 1191, Clean On-Road Light- and Medium-Duty Public Fleet Vehicles, applies to all state and local government agencies located in the South Coast AQMD's jurisdiction, including- state, regional, county, and city government departments and agencies, and any special districts such as water, air, sanitation, transit, and school districts, with 15 or more non-exempt light-duty vehicles. This regulation requires that these entities acquire low emission gasoline or ~~an~~ alternative fuel vehicles when procuring new vehicles. Rule 1196, Clean On-Road Heavy-Duty Public Fleet Vehicles, is a similar regulation that applies to on-road heavy-duty vehicles with a gross vehicle weight of at least 14,000 pounds. It requires all applicable government agencies and special districts with fleets of 15 or more vehicles (including commercial airports), to acquire a gasoline, dual-fuel or alternative fueled engine or vehicle when purchasing or leasing a new vehicle. Airports and operators must also comply with Rule 1194, Commercial Airport Ground Access, which requires all public ~~and private~~ fleets providing passenger transportation services out of commercial airports to acquire low emission or alternative-fueled vehicles. This rule applies to passenger cars, light-duty trucks, and medium- and heavy-duty transit vehicle fleets of 15 or more vehicles. Passenger shuttle buses and taxi cabs under a contract or exclusive franchise serving airports must comply with this rule as well.

CARB GSE MOU

In 2002, CARB executed an MOU with commercial airlines and cargo operators in the Basin for Ground Support Equipment (GSE). GSE is utilized for various functions at airports such as refueling aircraft, transporting cargo and luggage, and providing maintenance. The main objectives of the 2002 MOU were to have airlines meet a 2.65 g/bhp-hr hydrocarbon plus NOx performance target, convert at least 30% of the aggregate GSE fleet to electric, have at least 45% of new GSE purchases be electric, and reduce diesel GSE emissions by installing particle filters. The date to achieve these objectives was December 31, 2010. However, the MOU was terminated in 2006 because CARB's statewide regulations addressed many aspects of the GSE MOU.

CARB In-Use Off-Road Diesel-Fueled Fleets Regulation
CARB requires emission reductions from existing off-road diesel-fueled vehicles through its statewide In-Use Off-Road Diesel-Fueled Fleets Regulation. The regulation applies to all off-road diesel vehicles with engines greater than 25 horsepower including diesel-powered GSE and other diesel off-road equipment and vehicles operated at the airports. The regulation imposes limits on idling, restricts the addition of older vehicles to fleets, and requires fleets to retire, replace or repower older engines to achieve progressively lower average emission rates, or comply with the Best Available Control Technology (BACT) requirements. This rule requires mandatory reporting of applicable equipment to CARB through the Diesel Off-road On-line Reporting System (DOORS).[6]

CARB On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation
CARB's regulation requires emission controls and replacements for existing diesel trucks and buses through its statewide On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation, commonly referred to as the Truck and Bus Regulation. Heavy-duty vehicles with a gross vehicle weight greater than 14,000 pounds are required to be retrofitted with diesel particulate filters based on truck model years and according to specified schedules. In addition, replacement of older heavy-duty vehicles is mandated based on a tiered schedule that began in 2015. By 2023, nearly all trucks and buses will be required to have model year 2010 engines or newer.

CARB Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation
CARB's LSI regulation applies to off-road LSI engine forklifts, sweepers/scrubbers, industrial tow tractors, and airport ground support equipment operated within the State of California. Additionally, it applies only to vehicles with engines of at least 25 horsepower and 1.0 liter displacement that are part of fleets of four vehicles or more. The regulation requires that applicable fleets achieve specific fleet average emission levels (FAELs) for hydrocarbons and NOx. These standards became more stringent over time until reaching the lowest regulated FAEL in 2013. The regulation also mandates reporting of applicable equipment to CARB through DOORS.

CARB Zero-Emission Airport Shuttle Regulation
CARB's Zero-Emission Airport Shuttle Regulation, adopted by the CARB Governing Board in June 2019, promotes the use of zero-emission ground transportation to and from airports in California. The regulation requires that at least 33%, 66%, and 100% of airport shuttle fleets be zero-emission vehicles by December 31, 2027, 2031 and 2035, respectively. It also requires fleet owners to report fleet information annually starting in 2022 and to have zero-emission certificates for 2026 and later model year vehicles.

CARB's Proposed Zero-Emission Airport Ground Support Equipment
CARB is currently in the process of developing a zero-emission measure for GSE at airports in California. The proposed regulation is intended to advance GSE conversion to zero-emission technologies while accelerating the goals and requirements provided in the LSI Engine Fleet Requirements Regulation. ~~A~~CARB staff has is considering a preliminary target of 100% zero-

[6] Available at https://ssl.arb.ca.gov/ssldoors/doors_reporting/doors_login.html

emission GSE by 2032 ~~has been proposed~~. The proposed regulation is scheduled for Board consideration in late 2020.

C. U.S. EPA's Requirements for SIP Credits

In order for emission reductions from the MOUs and AQIPs/AQIMs to be SIP creditable ~~(i.e., _~~ allowing for the reductions to be counted ~~toward~~towards attainment ~~in the attainment demonstration),-~~ these reductions need to meet the U.S. EPA's guidelines. These guidelines include requirements regarding U.S. EPA's integrity elements, federally enforceable backstop commitments, technical support, funding, legal authority, public disclosure, and provisions to assess progress. Chapter 4 provides details on how these requirements are met for the AQIP/AQIM measures specified in the MOUs. The U.S. EPA's guidelines are briefly discussed below:

1. U.S. EPA's Integrity Elements – For emission reductions resulting from AQIP measures to meet the Integrity Elements, they must be surplus, permanent, quantifiable, and enforceable. These four elements are briefly explained below.

   i. Surplus
   Emission reductions are surplus if they are not otherwise required by or assumed in a SIP-related program (e.g., an attainment or reasonable further progress plan), any other adopted State, federal or local air quality regulation, a consent decree, or a federal rule designed to reduce emissions of a criteria pollutant or its precursors.

   ii. Permanent
   Emission reductions are permanent if the reductions occur throughout the term stated in the airports MOU. The MOU terms are based on the 8-hour ozone National Ambient Air Quality Standards attainment dates of 2023 and 2031. Therefore, the emission reductions must continue through 2031.

   iii. Quantifiable
   Emission reductions are quantifiable if they can be measured and supported by acceptable operating and technical data provided by the airports. The quantification must use well-established and publicly available calculation methods, including approved emission factors.

   iv. Enforceable
   The emission reductions are enforceable if they are independently verifiable, program violations are defined, and if emission-related information is publicly available. The airports will be responsible for having specific procedures and mechanisms to ensure enforcement and implementation of the emission reduction measures identified in the MOU.

2. Federal Enforceability
   The enforceable commitment must include: (1) a commitment to monitor, assess, and regularly report on emission reductions achieved; and (2) a commitment to adopt and submit

substitute measures to the U.S. EPA by specific dates if necessary to remedy any emission reduction shortfalls.

3. Technical Support
   To explain how the emission reductions are translated into SIP credits and applied toward the attainment demonstration, documentation and technical analysis must be provided. This documentation should include a description of the assumptions used in estimating and tracking emissions and emissions reductions from affected sources. The level of information in the documentation should be sufficiently detailed so that the public can review and repeat the quantification of the emission benefits.

4. Funding
   In the case that an incentive funding program is utilized to achieve emission reductions, adequate funding for the project needs to be available to show that the funds are committed already or are reasonably expected to be available to generate committed reductions.

5. Legal Authority to Administer the Program
   In the case of incentive programs, the legal authority to administer these programs needs to be identified by South Coast AQMD~~.~~ or the implementing authority.

6. Public Disclosure and Tracking Results
   The emission reductions data and other pertinent information related to the MOU measures (i.e., emissions inventory, emission reduction benefits, and implementation of measures) must be fully accessible to the public and U.S. EPA in accordance with the requirements of CAA section 114 and U.S. EPA's implementing regulations in 40 CFR 2.301.

Chapter 2 provides a summary of the draft AQIPs/~~AQIM~~AQIMs developed by five commercial airports as part of this MOU process. In Chapter 3, a summary of the MOUs between South Coast AQMD and the five commercial airports is provided including the AQIP/AQIM measures for each airport that are potentially eligible for SIP credits. Chapter 4 presents the proposed SIP creditable emission reductions (quantified by South Coast AQMD staff) associated with the implementation of the AQIP/AQIM measures in the MOUs including South Coast AQMD's enforceable commitments and a demonstration of how the emission reductions from these measures satisfy U.S. EPA's requirements. Appendix A includes the ~~draft AQIPs prepared by the five commercial airports. Appendix B includes the draft~~ MOUs between the South Coast AQMD and the five commercial airports. Appendix ~~C~~B includes the draft SIP credit calculation methodology. The airports AQIPs/AQIMs are posted on South Coast AQMD's website at http://www.aqmd.gov/airportsmous.

Chapter 2: Air Quality Improvement Plans/Measures

Introduction
Los Angeles International Airport (LAX) AQIM
John Wayne Airport (JWA) AQIP
Long Beach Airport (LGB) AQIP
Ontario Airport (ONT) AQIP
Burbank Airport (BUR) AQIP

Introduction

As part of the MOU process, each airport has developed its own Air Quality Improvement Plan (AQIP) or Air Quality Improvement Measures (AQIM). The AQIPs/AQIMs are the airports' comprehensive plans to reduce emissions from non-aircraft mobile sources related to airport operations. Specific measures and initiatives for the applicable sources are identified by each airport and included in the airports' AQIPs/AQIMs. The distinction between measures and initiatives varies among the airports. In general, a measure represents a program in which the airport ~~commits~~agrees to a well-defined course of action with known emission reductions, while an initiative represents an objective that the airport intends to pursue, but the emission reductions are not readily quantifiable.

The AQIPs/~~AQIM~~AQIMs include the 2017 baseline emissions as well as emissions forecasts in 2023 and 2031 under business as usual (BAU) and AQIP/AQIM implementation scenarios. The emission reduction benefits for the AQIP/AQIM measures presented in this chapter are estimates provided by the airports based on the difference between the BAU and AQIP/AQIM implementation scenarios. Although the airports have provided these estimated benefits, they are only committing to achieve the performance targets associated with these measures. Some of the measures do not have quantified emission reductions because they are either not well defined or they only include general goals or guidelines in lieu of specific performance targets.

The AQIPs/~~AQIM~~AQIMs also include implementation mechanisms for the measures and initiatives, which vary depending on the type of measure/initiative. For example, GSE measures establish airport-wide performance targets ~~which would~~to be achieved by GSE operators and tenants. Other measures affect vehicles or equipment ~~which~~that are entirely under the airport's authority. An incentive-based approach is also included in one of the AQIPs/AQIM.

This chapter provides summaries of the individual AQIPs or AQIMs including a brief description of each airport, baseline and BAU emissions inventories ~~and emission benefits, and~~ , a brief overview of the AQIP/AQIM measures~~.~~, estimated emission benefits and AQIP/AQIM measures that were determined by South Coast AQMD to be SIP creditable (i.e., emissions for the source category in the AQIP/AQIM measures were specifically identified in the SIP inventory and surplus reductions for the measures were quantifiable). The ~~draft~~ AQIPs/AQIMs for the five commercial airports are ~~included in Appendix A of this staff report~~provided on South Coast AQMD's website at http://www.aqmd.gov/airportsmous.

A. Los Angeles International Airport (LAX) AQIM

Background

Los Angeles International Airport (LAX), located at the western edge of the City of Los Angeles, is owned and operated by Los Angeles World Airports, which is a department of the City of Los Angeles. It is surrounded by Westchester, Inglewood, El Segundo, and the Pacific Ocean. LAX is the primary international airport serving the City and County of Los Angeles and surrounding metropolitan areas. LAX covers approximately 3,500 acres of land and has four runways.

LAX is the fourth busiest airport in the world and the second busiest in the United States. LAX served more than 87.5 million passengers in 2018 and currently offers an average of 700 daily nonstop flights to 109 cities in the U.S. and 1,281 weekly nonstop flights to 93 markets in 47 countries on 69 commercial airlines. LAX ranks 10th in the world in terms of air cargo, with more than 2.4 million tons of air cargo processed in 2018. In 2018, LAX handled over 700,000 total aircraft operations (i.e., landing and take-off).

Baseline and BAU Emissions Inventories

The non-aircraft mobile source emissions inventory included in the AQIM is summarized by source category in Table 2.1 and covers GSE, on-road mobile sources, and traffic and parking. The on-road category represents emissions from on-airport traffic from shuttles, buses, and trucks greater than 8,500 Gross Vehicle Weight Rating (GVWR). Traffic and parking represents emissions from the airport-owned fleet.

Table 2.1. Baseline and BAU Non-Aircraft Mobile Source Emissions for LAX by Source Category (NOx, tons per year)

Category	2017	2023	2031
GSE	184.93	150.69	121.31
On-road (> 8,500 GVWR)[1]	50.69	19.56	16.00
Traffic and Parking[2]	83.04	25.29	21.11
Total	351.56	195.54	158.42

[1] This inventory is for vehicles subject to the LAX Alternative Fuel Vehicle Requirement Policy
[2] This inventory is for LAWA-owned fleet vehicles only.

List of AQIM Measures

LAX's AQIM includes 11 measures affecting various source categories. A summary list of LAX's AQIM measures is presented in Table 2.2. The measures are grouped into three categories – GSE, on-road mobile, and traffic and parking. The categories are consistent with the ones listed in the emissions inventory.

There are two measures that affect GSE. The first is based on the airport's GSE Emissions Reduction Policy, which establishes airport-wide GSE fleet average emission rates. The other ~~two measures are~~measure is an incentive fund to accelerate the turnover of the GSE fleet to zero-emission equipment. Five measures target the on-road mobile source category. The first measure is the LAX Alternative Fuel Vehicle Policy which requires that medium and heavy duty vehicles be 13 years old or newer in order to operate at LAX, and requires that vehicles meet LEV III or the optional low-NOx standard. The Alternative Fuel Vehicle Incentive Program creates a $500,000 fund to incentivize the conversion of 20 heavy-duty trucks to zero or near zero-emission. The Clean Fleet Program for LAWA's Vehicle Fleet has three programs. For LAWA's light duty fleet, 25% and 100% of LAWA's sedan fleet must be electric by 2023 and 2031, respectively. LAWA's medium and heavy-duty vehicles must meet the LAX Alternative Fuel Vehicle Policy requirements. Additionally, LAWA-owned shuttle buses will be converted to electric by the end of 2030.

Traffic and parking is covered by four measures, which reduce vehicle miles traveled and vehicle idle time. These measures include improvements to public transit with connections to airport terminals, the installation of smart parking systems, and continuation of the LAX FlyAway and LAWA employee rideshare programs.

The corresponding emission benefits for the AQIM measures with quantifiable emission reductions in 2023 and 2031 are provided in Table 2.2. The measures included in the MOU are also identified in this table.

Table 2.2. Summary of AQIM Measures and Initiatives for LAX

Measure Type [1]	**Source Category**	**Description**	**2023 AQIM Benefit (NOx, tpy) [2]**	**2031 AQIM Benefit (NOx, tpy) [2]**	**SIP creditable (Y/N)**
M	GSE	Ground Support Equipment (GSE) Emissions Reduction Policy - Require that the GSE fleet achieve average emission factors for Hydrocarbon and NOx combined of 1.8 g/hp-hr (2023) and 1.0 g/hp-hr (2031)	56.17	86.16	Y
M	GSE	GSE Incentive Program - $500,000 fund allocated to incentivize zero-emission GSE by 2023	NQ	NQ	N
M	On-road	LAX Alternative Fuel Vehicle Policy – Third party medium and heavy duty vehicles to utilize clean-fueled low-emission engines	6.98	9.18	N
M	On-road	LAX Alternative Fuel Vehicle Policy – LAWA-owned medium and heavy duty vehicles to utilize clean-fueled low-emission engines			N
I	On-road	Alternative Fuel Vehicle Incentive Program - $500,000 fund allocated to incentivize the conversion of 20 heavy-duty vehicles to zero or near-zero emission trucks by 2021			Y
I	On-road	LAWA Clean Fleet Program - 20% (2023) and 100% (2031) ZE buses	0.35	1.73	Y

Measure Type [1]	Source Category	Description	2023 AQIM Benefit (NOx, tpy) [2]	2031 AQIM Benefit (NOx, tpy) [2]	SIP creditable (Y/N)
I	On-road	LAWA Clean Fleet Program – 25% (2023) and 100% (2031) EV light-duty sedans.	0.01	0.03	N

Table 2.2. Summary of AQIM Measures and Initiatives for LAX (cont'd)

Measure Type [1]	Source Category	Description	2023 AQIM Benefit (NOx, tpy) [2]	2031 AQIM Benefit (NOx, tpy) [2]	SIP creditable (Y/N)
I	Traffic and Parking	LAX Employee Rideshare Program - Continue operation of LAWA employee rideshare program	NQ	NQ	N
I	Traffic and Parking	LAX FlyAway Program – Continue operation	NQ	NQ	N
I	Traffic and Parking	LAX Landside Access Modernization Program - Public transit improvements including consolidated car rental, parking lot, and Metro connection	3.99	NQ	N
I	Traffic and Parking	Smart Parking Systems - Improve traffic flow and reduce idling in parking lots	0.24	0.21	N

[1] A measure (M) is an air quality improvement program that has been or will be adopted by LAWA's Board of Airport Commissioners and typically applies to LAWA tenants or third parties. An initiative (I) is a statement of airport policy and typically applies to LAWA-owned or controlled operations.
[2] NOx emission reduction benefit as determined by the airport.
NQ = Not Quantifiable

B. John Wayne Airport (JWA) AQIP

Background

John Wayne Airport (JWA), which is owned and operated by the County of Orange, is the only commercial service airport in Orange County, California. It is located approximately 35 miles southeast of Los Angeles, between the cities of Costa Mesa, Irvine, and Newport Beach. The service area includes more than three million people within the 34 cities and unincorporated areas of Orange County.

In 2018, JWA served approximately 10.7 million passengers. A maximum of 85 Class A Average Daily Departures (ADDs) are currently allowed under a 2014 settlement agreement ~~with municipalities and local stakeholders. An additional 2 ADDs are allocated to cargo flights~~between JWA, the City of Newport Beach and two community groups. As part of the agreement, commercial aircraft activity at the Airport is limited to 10.8 million passengers (MAP), 11.8 and 12.2 or 12.5, for the years 2020, 2025 and 2030, respectively. The average daily departures (ADDs) for Class A aircraft at the Airport are limited to 85 ADDs in 2020 and 95 ADDs in 2025 and 2030; and up to four cargo ADDs.

Baseline and BAU Emissions Inventories

The non-aircraft mobile source emissions inventory included in the AQIP is summarized by source category in Table 2.3 and covers GSE, fuel trucks, on-road mobile and off-road mobile sources, and passenger traffic. The on-road category incorporates emissions related to airport shuttles, the airport-owned on-road fleet, and delivery trucks. The off-road category incorporates emissions related to the airport-owned off-road fleet ~~and construction equipment.~~. Passenger and employee traffic, which only considers on-airport roadways and parking lots, includes passenger vehicles, taxis, and ~~taxis~~Transportation Network Companies.

Table 2.3. Baseline and BAU Non-Aircraft Mobile Source Emissions for John Wayne Airport by Source Category (NOx, tons per year)

Category	2017	2023	2031
GSE	22.28	15.07	9.98
Fuel Trucks	3.69	1.70	1.51
On-road	0.~~35~~63	0.~~27~~57	0.~~24~~56
Off-road	0.13	0.06	0.03
Passenger and Employee Traffic	0.64	0.37	0.26
Total	27.09	17.48	12.03

List of AQIP Measures

John Wayne Airport's AQIP includes 13 measures and initiatives covering various source categories. A summary list of JWA's AQIP measures and initiatives is presented in Table 2.4. The measures are grouped into five categories – GSE, fuel trucks, on-road mobile, off-road mobile, and passenger traffic. The categories are consistent with the ones listed in the emissions inventory.

The GSE measure ~~is based on the airport's GSE policy, which~~ establishes airport-wide fleet average emission rates. Another measure calls for the installation of a jet fuel pipeline, which will eliminate routine commercial passenger jet fuel truck deliveries. Three other measures affect the on-road mobile source category. These measures involve shifting the time of concession deliveries to the night, phasing out the existing Compressed Natural Gas (CNG) shuttle fleet in favor of electric vehicles, and introducing a greater percentage of low emission or alternative fueled vehicles in the JWA on-road fleet. The Concessions Nighttime Delivery Policy will require, where feasible, that deliveries are performed from 11 pm to 6 am. The JWA Owned Vehicle Clean Fleet Policy will require that vehicles and equipment with greater than 50 HP

engines be replaced with ~~zero emission~~new electric, alternative fuel, or hybrid vehicles~~.~~ through a replacement process of existing vehicles. Finally, the Parking Shuttle Bus Electrification Measure will require that 50% ~~(six)~~ and 80% ~~(ten)~~ of the ~~twelve existing~~ CNG shuttle buses be replaced with electric buses in 2023 and 2031, respectively. JWA may choose to keep ~~two~~ CNG shuttle buses, which would ~~only~~ be ~~used rarely as backup~~for standby and emergency use. Currently, there are twelve CNG shuttle buses.

The bulk of the measures benefit passenger traffic emissions by reducing vehicle miles traveled and vehicle idling time. These involve smart parking, congestion reduction, re-matching Transportation Network Company (TNC) rides to increase efficiency, and facilitating public transit access. The Smart Parking Features measure requires the installation of smart parking features to facilitate traffic movement and reduce idling. The Congestion and Passenger Vehicle Reduction measure is already implemented and has resulted in congestion reduction with existing holding lots for ~~standby~~taxis and passenger pick-up vehicles. The TNC Vehicle Miles Traveled Reduction Policy will designate pickup and drop-off locations and establish a re-matching system. Finally, the Passenger Transportation Mode Shifts ~~measure~~initiative will assign a liaison to work with the Orange County Transportation Agency (OCTA) to increase public transit access. In addition, the feasibility of installing EV charging infrastructure for transit vehicles and JWA employee rideshare programs will be explored.

Table 2.4. Summary of AQIP Measures and Initiatives for John Wayne Airport

Measure Type [1]	Source Category	Description	2023 AQIP Benefit (NOx, tpy) [2]	2031 AQIP Benefit (NOx, tpy) [2]	SIP creditable (Y/N)
M	GSE	Ground Support Equipment (GSE) - Require that the GSE fleet achieve average emission factors for NOx ~~and HC combined~~ of 1.7 (2023) and 0.9 (2031) g/bhp-hr	4.80	3.92	Y
M	Fuel trucks	Jet Fuel Delivery Trucks – Install a jet fuel pipeline by the end of 2019 and eliminate routine jet fuel delivery trucks by 2023	1.70	1.51	Y
M	On-road	Concessions Nighttime Delivery Policy - Require, where feasible, that deliveries are performed from 11 pm to 6 am	0.02	0.02	N
M	On-road	JWA Owned Vehicle Clean Fleet Policy - Replace vehicles with >50 HP engines with zero emission or hybrid vehicles	0.~~03~~001	0.~~02~~008	N
M	On-road	Parking Shuttle Bus Electrification - Replace 50% (2023) and 80% (2031) of existing 12 CNG buses with electric buses	0.16	0.~~35~~29	Y
M	Off-road	Clean Construction Program - Require that heavy-duty diesel-fueled construction equipment meets Tier 4 standards	NQ	NQ	N

Table 2.4. Summary of AQIP Measures and Initiatives for John Wayne Airport (cont'd)

Measure Type [1]	Source Category	Description	2023 AQIP Benefit (NOx, tpy) [2]	2031 AQIP Benefit (NOx, tpy) [2]	SIP creditable (Y/N)
I	Passenger ~~traffic~~and Employee Traffic	Taxi Clean Fleet Policy - Codify Rule 1194 into taxi operating agreements to encourage adoption of cleaner technologies	NQ	NQ	N
M	Passenger ~~traffic~~and Employee Traffic	Smart Parking Features - Install smart parking features to facilitate traffic movement and reduce idling	0.09	0.08	N
I	Passenger ~~traffic~~and Employee Traffic	Electric Vehicle Charging Infrastructure - Increase the number of EV chargers in passenger and employee parking lots	NQ	NQ	N
I	Passenger ~~traffic~~and Employee Traffic	Passenger Transportation Mode Shifts - Assign a liaison to work with OCTA to facilitate public transit access and explore feasibility of installing EV charging infrastructure for transit vehicles	NQ	NQ	N
M	Passenger ~~traffic~~and Employee Traffic	TNC Vehicle Miles Traveled Reduction Policy - Designate pickup/drop-off locations and establish a re-matching system	0.06	0.03	N
I	Passenger ~~traffic~~and Employee Traffic	Orange County Employee Rideshare Program - Continue implementation of OC Rideshare	~~NQ~~0.003	~~NQ~~0.002	N
M	Passenger ~~traffic~~and Employee Traffic	Congestion and Passenger Vehicle Reduction - Reduce congestion with existing holding lots for standby vehicles (passenger and taxi)	0.03	0.02	N

[1] A measure (M) represents a program, policy, or procedure ~~which~~that is anticipated to result in emission reductions. An initiative (I) represents a program, policy, or procedure with less certain emission reductions.
[2] This is the NOx emission reduction benefit as determined by the airport.
NQ = Not Quantifiable

C. Long Beach Airport (LGB) AQIP

Background

Long Beach Airport (LGB), which is owned and operated by the City of Long Beach, covers 1,166 acres and has five runways. It is one of the world's busiest airports in terms of general aviation activity. In 2018, LGB served 4 million passengers, with approximately 45 daily commercial departures. LGB operations are governed by a noise reduction ordinance that restricts certain activities such as engine run-ups, missed approaches, and hours of operation. The ordinance also limits the total number of commercial flights per day.

Baseline and BAU Emissions Inventories

Table 2.5 presents the non-aircraft mobile source emissions inventory included in the AQIP by source category including GSE, on-road mobile sources, construction, and traffic and parking. The on-road category incorporates emissions related to the airport-owned fleet. Traffic and parking, which only considers on-airport traffic, includes passenger cars, taxis, limos, shuttles, buses, and cargo trucks.

Table 2.5. Baseline and BAU Non-Aircraft Mobile Source Emissions for Long Beach Airport by Source Category (NOx, tons per year)

Category	2017	2023	2031
GSE	16.78	13.23	10.54
On-road	0.07	0.09	0.13
Construction	2.91	8.59	2.91
Traffic and Parking	2.25	1.04	0.62
Total	22.01	22.95	14.20

List of AQIP Measures

Long Beach Airport's AQIP includes 7 measures and initiatives covering various source categories. A summary of LGB's measures is presented in Table 2.6. The measures are grouped into five categories – GSE, on-road mobile sources, construction, traffic and parking, and other. The categories are consistent with the ones listed in the emissions inventory in the previous section, except for measures and initiatives that did not fall into any defined category (e.g. solar panel installation, LEED building certification). These are labeled "other" in the summary table.

The GSE measure is based on the airport's GSE Emission Reduction Policy, which establishes airport-wide GSE fleet emission rates. One measure impacts the on-road category, which involves a transition of the airport-owned fleet to low emission or alternative fueled vehicles. The target is to achieve 100% light duty compliance by 2023, and 75% and 100% medium to heavy duty compliance by 2023 and 2031, respectively. Construction activities are targeted in a measure that will ensure the use of only the cleanest off-road equipment (e.g., compliance with U.S. EPA Tier 4). Two measures impact passenger traffic and will include a TNC re-match system, with designated pickup and drop-off locations, and the possible expansion of EV charging capabilities. The "other" category measures require a minimum of LEED Silver certification for new buildings and the installation of a solar panel array.

Table 2.6. Summary of AQIP Measures and Initiatives for Long Beach Airport

Measure Type [1]	Source Category	Description	2023 AQIP Benefit (NOx, tpy) [2]	2031 AQIP Benefit (NOx, tpy) [2]	SIP creditable (Y/N)
M	GSE	Ground Support Equipment Emissions Reduction Policy - Require that the GSE fleet achieve average emission factors for ~~HC and~~ NOx ~~combined~~ of 0.93 (2023) and 0.44 (2031) g/bhp-hr	0.93	4.06	Y
M	Construction	Clean Construction Policy - Tier 4 compliance phase-in with full implementation in 2031	NQ	NQ	N
M	On-road	Airport-Owned Clean Fleet Policy - Transition to SULEV or alternative fuel vehicles. Light duty 100% by 2023; medium and heavy duty 75% by 2023, 100% by 2031	0.03	0.06	N
I	Traffic and Parking	Electric Vehicle Charging Infrastructure Initiative - Assess feasibility of equipping 2% of parking spaces with EVSE	NQ	NQ	N
I	Traffic and Parking	TNC Rematch Initiative - Designate pickup/drop-off locations with re-match system	NQ	NQ	N
M	Other	Sustainable Design Policy - LEED Silver minimum for Terminal Improvements Project	NQ	NQ	N
M	Other	Renewable Energy Policy - Implement solar power system by the end of 2020	NQ	NQ	N

[1] A measure (M) represents a program in which the airport ~~commits~~agrees to a well-defined course of action. An initiative (I) represents an objective that the airport seeks to achieve but is less well-defined.
[2] This is the NOx emission reduction benefit as determined by the airport.
NQ = Not Quantifiable

D. Ontario Airport (ONT) AQIP

Background

Ontario Airport (ONT), which is owned and operated by the Ontario International Airport Authority, is located 35 miles east of Los Angeles in the Inland Empire and covers 1,700 acres. ONT's service area includes a population of six million people in San Bernardino and Riverside

counties, and portions of Orange and Los Angeles counties. In 2018, the airport served approximately 5.1 million passengers with 60 average daily departures. In addition to commercial passenger flights, ONT also serves cargo flights, with approximately 650,000 tons of freight processed annually.

Baseline and BAU Emissions Inventories

Table 2.7 presents the non-aircraft mobile source emissions inventory included in the AQIP by source category including GSE, on-road and off-road sources, and passenger traffic. The on-road category incorporates emissions related to the airport-owned fleet and delivery trucks. The off-road category incorporates emissions related to fire department vehicles and the maintenance contractor fleet. Passenger traffic considers regional travel.

Table 2.7. Baseline and BAU Non-Aircraft Mobile Source Emissions for Ontario Airport by Source Category (NOx, tons per year)

Category	2017	2023	2031
GSE	103.02	91.10	79.84
Fuel Trucks	2.21	1.98	0.60
On-road	0.80	0.36	0.40
Off-road	8.55	8.08	7.82
Passenger Traffic	39.20	20.96	12.74
Total	153.78	122.48	101.40

List of AQIP Measures

Ontario Airport's AQIP includes 9 measures and initiatives covering various source categories. A summary of the measures is presented in Table 2.8. The measures are grouped into five categories – GSE, fuel trucks, on-road mobile, off-road mobile, passenger traffic, and other. The categories are consistent with the ones listed in the emissions inventory, except for measures and initiatives that did not fall into any defined category (e.g. solar panel installation, LEED building certification). These are labeled "other" in the summary table.

The GSE measure is based on the airport's GSE Policy, which establishes stringent airport-wide fleet average emission rates. Three measures affect the off-road category, and they involve crash truck replacement, reducing the size of the airport maintenance fleet, and ensuring the use of only the cleanest off-road equipment for construction (e.g., compliance with U.S. EPA Tier 4). The Crash Truck Replacement measure will require the replacement of 7 out of 12 vehicles in the fire department fleet including four crash trucks. The new crash trucks will be Tier 4 compliant. Two measures, the Airport Fleet Policy and the Sally Port, affect the on-road category. These measures involve a transition of the airport-owned fleet to low emission or alternative fueled vehicles and the creation of a centralized delivery location in lieu of terminal loading docks, which is anticipated to reduce vehicle miles travelled. Another measure will reduce passenger traffic emissions by expanding EV charging capability. Finally, the CalGreen and LEED Silver Requirement ~~affects~~affect the "other" category and will require new buildings to meet green building standards.

Table 2.8. Summary of AQIP Measures and Initiatives for Ontario Airport

Measure Type [1]	Source Category	Description	2023 AQIP Benefit (NOx, tpy) [2]	2031 AQIP Benefit (NOx, tpy) [2]	SIP creditable (Y/N)
M	GSE	GSE Policy - Require that the GSE fleet achieve average emission factors for NOx are 2.20 g/hp-hr (2023) and 1.00 g/hp-hr (2031)	22.66	46.03	Y
M	Fuel Trucks	Fuel Truck Operations - Addition of a second jet fuel loading rack to reduce distance travelled	NQ	NQ	N
M	Off-road	Crash Truck Replacement - Replace 7 of 12 vehicles in the fire department fleet, including 4 crash trucks, with Tier 4 compliant engines	3.26	3.26	N
M	On-road	Airport Fleet Policy - Gradually replace vehicles with CNG, hybrid, or electric. This measure is coupled to the following measure	0.05	0.05	N
M	Off-road	Maintenance Truck Reduction - Reduce size of maintenance fleet from 28 to 7 vehicles			N
M	On-road	Sally Port - Centralized delivery location in lieu of terminal loading docks	NQ	NQ	N
M	Off-road	Construction Equipment Policy - Require, where feasible, that contractors use Tier 4 equipment	NQ	NQ	N
I	Other	CalGreen and LEED Silver Requirement - Ensure future buildings meet CALGreen Title 24 regulations	NQ	NQ	N
I	Passenger traffic	EV Infrastructure in Passenger Parking Lots - Expand EV charging availability	NQ	NQ	N

[1] A measure (M) contains concrete goals that result in quantifiable emission reductions. An initiative (I) is a policy that provides infrastructure, incentives, or other tools that promote emission reductions, but ~~do~~does not contain specific requirements.
[2] This is the NOx emission reduction benefit as determined by the airport.
NQ = Not Quantifiable

E. Burbank Airport (BUR) AQIP

Background

Burbank Airport (BUR) is owned by the Burbank-Glendale-Pasadena Airport Authority and is operated by TBI Airport Management. It is located approximately 13 miles northwest of Los Angeles and occupies 555 acres with 14 passenger gates. In 2018, BUR served over 5 million passengers, processed 109 million pounds of cargo, and logged over 130,000 total aircraft operations.

Baseline and BAU Emissions Inventories

Table 2.9 presents the non-aircraft mobile source emissions inventory included in the AQIP by source category including GSE, airport fleet, construction, and passenger traffic. The airport fleet category incorporates airport-owned on-road and off-road fleets. Passenger traffic, which only considers on-airport roadways and parking lots, accounts for passenger vehicles, taxis, TNC, and hotel and airport shuttle rides.

Table 2.9. Baseline and BAU Non-Aircraft Mobile Source Emissions for Burbank Airport by Source Category (NOx, tons per year)

Category	2017	2023	2031
GSE	17.85	17.46	16.72
BUR Fleet	1.27	0.78	0.44
Construction	2.37	7.76	2.37
Passenger Traffic	0.54	0.28	0.18
Total	22.03	26.28	19.71

List of measures

Burbank Airport's AQIP includes 9 measures and initiatives covering various source categories. A summary of the measures is presented in Table 2.10. The measures are grouped into five categories, which include GSE, on-road mobile, off-road mobile, passenger traffic, and other. The categories are consistent with the ones listed in the emissions inventory, except for measures and initiatives that do not fall into any defined category (e.g. solar panel installation, LEED building certification). These are labeled "other" in the summary table.

The GSE measure is based the airport's GSE Emissions Policy, which establishes airport-wide fleet average emission rates. One measure affects the construction category by ensuring the use of only the cleanest equipment. In addition to compliance with U.S. EPA Tier 4 for off-road sources, this measure requires the use of 2010 or newer model year engines for on-road construction vehicles. One measure, the Airport-Owned Clean Fleet policy, benefits the on-road category and involves a transition of the airport-owned fleet to zero-emission vehicles, with 100% EV light duty and shuttle buses by 2023 and 2031, respectively. Four measures are aimed at passenger traffic: the Regional Intermodal Transportation Center, the Burbank Airport Employee Ride Share Policy, the Burbank-Metrolink Shuttle Connection Program, and the Electrical Charging Infrastructure Initiative. The transportation center currently offers consolidated parking, car rental, and access to public transit. The Burbank-Metrolink Shuttle Connection Program will promote connections to Metrolink trains in an effort to increase ridership. The Electrical Charging Infrastructure Initiative will aim to equip 5% of parking lot

spaces with EV chargers by 2031. Finally, the “other” category is affected by two measures which involve an existing LEED Platinum certified hangar and the installation of a solar panel array.

Table 2.10. Summary of AQIP Measures and Initiatives for Burbank Airport

Measure Type [1]	Source Category	Description	2023 AQIP Benefit (NOx, tpy) [2]	2031 AQIP Benefit (NOx, tpy) [2]	SIP creditable (Y/N)
M	GSE	Ground Support Equipment Emissions Policy - Require that the GSE fleet achieve average emission factors for ~~HC and~~ NOx ~~combined~~ of 1.~~92~~66 g/hp-hr (2023) and 0.~~82~~74 g/hp-hr (2031)	0.70	8.70	Y
M	Construction	Clean Construction Policy - Require U.S. EPA 2010 standard for on-road, Tier 4 for off-road. Use grid power where available	1.55	NQ	N
I	BUR Fleet	Airport-Owned Clean Fleet - 100% EV light-duty by 2023; medium and heavy-duty 50% EV by 2031; 50% (2023) and 100% (2031) EV buses	0.04	0.09	Y
I	Passenger traffic	Electrical Charging Infrastructure - 5% of parking spaces equipped by 2031	NQ	NQ	N
I	Passenger traffic	The Regional Intermodal Transportation Center - Consolidated parking, car rental, and access to public transit	0.33	0.21	N
I	Passenger traffic	Burbank-Metrolink Shuttle Connection Program – Promote Metrolink-Shuttle programs to increase participation			N
M	Passenger traffic	Burbank Airport Employee Ride Share Policy – Increase ridership by 3% (2023) and 6% (2031)	0.04	0.05	N
I	Other	Replacement Terminal Project - CalGreen/LEED Silver terminal construction. LEED Platinum hanger	NQ	NQ	N
I	Other	RITC Solar Facility - Install 2.2 MWh solar array	NQ	NQ	N

[1] A measure (M) represents a program in which the airport ~~commits~~agrees to a well-defined course of action. An initiative (I) represents an objective that the airport seeks to achieve but is less well-defined.
[2] This is the NOx emission reduction benefit as determined by the airport.
NQ = Not Quantifiable

Chapter 3: ~~Memorandum~~Memoranda of ~~Understandings~~Understanding

Introduction
General MOU Sections Applicable to All Airports
Airport Specific MOU Sections

Introduction

This chapter provides a summary of the main elements contained in the five MOUs between South Coast AQMD and each of the commercial airports. The MOUs represent voluntary agreements between South Coast AQMD and the airports to implement the AQIP/AQIM measures that are eligible for SIP credit, as identified in Chapter 2. The airports agree to implement the measures and annually report progress to South Coast AQMD. South Coast AQMD then commits to quantify the emission reductions, and prepare and submit the necessary documentation to U.S. EPA for inclusion of the emission reductions into the SIP.

A. General MOU Sections Applicable to All Airports

The MOUs contain sections common to all airports, with the primary difference being the attached schedules, which will be discussed in detail later. This section will summarize the common elements including the purpose, term, and applicability of the MOUs, and airport and South Coast AQMD responsibilities.

MOU Purpose

The central objective of the AQIPs/AQIMs and MOUs is to help achieve ~~the~~ NOx reductions necessary for attainment of the 1997 and 2008 8-hour ozone standards in 2023 and 2031, respectively. The MOUs describe the process of how South Coast AQMD and the airports intend to quantify the emission reduction benefits associated with the implementation of AQIP/AQIM measures eligible for SIP credit. For each of these measures, the specific implementation, monitoring, and reporting mechanisms are presented in the schedules attached to the MOUs. The schedules provide technical details including metrics and performance targets, the timeline for implementation, and annual reporting by the airport to South Coast AQMD. The emission reductions achieved through the MOUs will be credited into the SIP to the extent that they satisfy U.S. EPA's integrity elements (i.e. quantifiable, surplus, permanent, and enforceable). In the event that the actual achieved reductions fall short of those defined in Chapter 4, South Coast AQMD will be solely responsible for ensuring that the remaining reductions are achieved.

MOU Term

The MOUs will remain in effect from the date of execution through December 31, 2031, unless terminated earlier. South Coast AQMD or the airports may choose to terminate the MOU by providing written notice to the other party at least 90 days in advance of the specified termination date. South Coast AQMD and the airports ~~commit~~agree to work together to resolve any issues and negotiate an updated MOU. However, if no agreement is reached, the MOU will terminate on the date specified in the initial notice.

MOU Applicability

The MOUs ~~address only~~include the airports' specific AQIP/AQIM measures ~~and initiatives~~ that are deemed eligible for SIP credit and ~~do not supersede rules that are established by the U.S. EPA or CARB, or legal obligations that the airports are subject to. Additionally, the MOUs~~ explicitly exclude sources that are not identified as an emission source in the AQIP

~~(e.g. all aircraft parts and systems).~~/AQIM. Furthermore, the MOUs do not establish an emissions cap or any other facility-wide limit for any pollutant for the airports.

Airport Responsibilities

The airports' implementation of the AQIP/AQIM measures is voluntary, thereby qualifying the airports for incentives through various programs (e.g., FAA Voluntary Aviation Low Emissions Program). Nevertheless, the airports ~~commit~~agree to implement the AQIP/AQIM measures eligible for SIP credit and monitor and report on the implementation of these measures. Details regarding the implementation, monitoring, and reporting of these measures are provided in the schedules attached to the MOUs. The schedules provide technical details including metrics and performance targets, the timeline for implementation, and annual reporting requirements. Where feasible, the airports agree to provide monetary or non-monetary incentives for mobile sources included in the AQIP/AQIM. Additionally, the airports agree to support grant funding efforts.

South Coast AQMD Responsibilities

South Coast AQMD's responsibility is to quantify the emission reduction benefits associated with implementation of the AQIP/AQIM measures in the MOUs ~~which~~that are eligible for potential SIP credit. The quantification of the SIP credits is based on the AQIP/AQIM measures and their supporting calculations provided by the airports as well as the SIP credit calculation methodology developed by South Coast AQMD (Appendix ~~C~~B). South Coast AQMD will provide a SIP update to U.S. EPA for the prospective SIP credits for these measures for the 2023 and 2031 attainment years. South Coast AQMD will also track the implementation of these measures based on the annual reports provided by the airports as specified in the schedules and submit the necessary documentation to U.S. EPA. All ~~emission reduction~~emissions related data and other pertinent information will be made fully accessible to the public.

South Coast AQMD is also responsible for the federally enforceable commitments and any potential emission reduction shortfall associated with implementation of the AQIP/AQIM measures in the MOUs. In the event that the actual reductions from the AQIP/AQIM measures fall short of those defined in Chapter 4, South Coast AQMD will be solely responsible for ensuring that the remaining reductions are achieved by developing and providing substitute measures to U.S. EPA. In such events, South Coast AQMD will work together with the airports and other stakeholders through a public process to consider potential new or enhanced programs, or better efforts to quantify existing programs.

South Coast AQMD may pursue additional funding programs and incentives, at the Governing Board's discretion, in order to accelerate the turnover of equipment to clean technology.

B. Airport Specific MOU Sections

The schedules are documents attached to the MOU that describe the metrics and performance targets of the AQIP/AQIM measures, the timeline for implementation, and the details of the annual reports prepared by the airports. One schedule is attached for each AQIP/AQIM measure

that is eligible for SIP credit. In general, the airports' commitments include implementing the ~~measure~~AQIP/AQIM measures in the MOUs and submitting annual ~~progress~~ reports by June 1 of each year, beginning in 2021. ~~In 2023 and 2031,~~ South Coast AQMD will quantify the actual emission reductions ~~and~~achieved each year based on the annual reports provided by the airports to track progress toward achieving the SIP credits in 2023 and 2031. South Coast AQMD will also ensure that the relevant emissions data is accessible to the public and submitted to U.S. EPA. The schedules for all airports are summarized below.

Los Angeles International Airport

The MOU schedules/measures[7] for LAX are summarized in Table 3.1.

Table 3.1. MOU ~~Schedules~~Measures for LAX

Schedule	Title and Program Description
1	Ground Support Equipment Emissions Reduction Policy - Require that all ground support equipment operators at LAX achieve fleet average NOx + Hydrocarbon emission factors of 1.8 and 1.0 grams per brake horsepower-hour in 2023 and 2031, respectively.
2	LAX Alternative Fuel Vehicle Incentive Program - Implement an incentive program that will distribute up to $500,000 dollars in funding to applicants based on the "incremental cost" differential of the zero or near-zero emission vehicles as compared to conventionally-fueled equivalents with a Gross Vehicle Weight Rating (GVWR) of 14,001 pounds or greater by December 31, 2021.
3	Zero Emission Bus Program – Replace 20% and 100% of LAWA-owned and operated buses with zero-emission buses by 2023 and 2031, respectively.

Under ~~Schedule~~Measure 1, Los Angeles World Airports (LAWA) ~~commits~~agrees to implement the AQIM measure by working with airport tenants to achieve the GSE performance targets. LAWA will also submit annual progress reports including detailed equipment and emissions inventories, in addition to data on replaced GSE. The data will include equipment type, fuel type, engine model year, power rating, engine tier level, and annual activity data ~~(specific activity data to be determined).~~.

Under ~~Schedule~~Measure 2, LAWA will submit annual progress reports that provide detailed information, accompanied by an emissions inventory, regarding the purchased zero or near-zero emission vehicles as well as ~~the details of~~data for the replaced vehicles.

Under ~~Schedule~~Measure 3, LAWA will submit annual reports that include a list of buses in operation with associated vehicle identification number, model year, power rating, gross vehicle weight rating, fuel type, odometer reading, and annual vehicle miles travelled. Additionally, a detailed emissions inventory and a list of replaced and replacement buses will be provided by LAWA.

[7] For the LAX MOU, the term "MOU Measures" are used instead of "MOU Schedules".

John Wayne Airport

The MOU schedules for John Wayne Airport are summarized in Table 3.2.

Table 3.2. MOU Schedules for John Wayne Airport

Schedule	Title and Program Description
1	Ground Support Equipment - Require that all ground support equipment associated with commercial operations achieve ~~a~~ fleet average NOx emission factors of 1.7 and 0.9 g/bhp-hr in 2023 and 2031, respectively.
2	Jet Fuel Delivery Trucks - Install a jet fuel pipeline by the end of 2019 and eliminate routine commercial aviation jet fuel delivery trucks by 2023.
3	Parking Shuttle Bus Electrification – Replace a minimum of 50% and 80% of airport employee and passenger remote parking compressed natural gas (CNG) shuttle buses with battery-electric shuttle buses by 2023 and 2031, respectively. The airport may continue to maintain standby shuttle buses for emergency use.

Under Schedule 1, the airport ~~commits~~agrees to implement the AQIP measure by working with airport tenants to achieve the performance targets. The airport will also submit annual progress reports including detailed equipment and emissions inventories, in addition to data on replaced GSE. The equipment data will include equipment type, fuel type, engine model year, power rating, engine tier level, and annual activity data.

Under Schedule 2, the airport will provide annual reports that include the number of commercial passenger jet fuel delivery truck trips, an estimate of vehicle miles travelled, total amount of jet fuel delivered by fuel trucks and fuel pipeline, and a detailed emissions inventory.

Under Schedule 3, the airport will provide annual reports that include a list of ~~conventionally-fueled~~ shuttle buses in operation with associated vehicle identification number, model year, power rating, gross vehicle weight rating, fuel type, odometer reading, and annual vehicle miles travelled. Additionally, a detailed emissions inventory and a list of replaced and replacement buses will be provided by the airport.

Burbank Airport

The MOU schedules for Burbank Airport are summarized in Table 3.3.

Table 3.3. MOU Schedules for Burbank Airport

Schedule	Title and Program Description
1	Ground Support Equipment - Require that all ground support equipment associated with commercial operations achieve fleet average ~~hydrocarbon plus~~ NOx ~~combined~~ emission factors of 1.~~92~~66 and 0.~~82~~74 g/bhp-hr in 2023 and 2031, respectively.
2	Zero-Emission Shuttle Bus Program – Replace 50% and 100% of BUR-owned and operated buses with electric buses by 2023 and 2031, respectively.

Under Schedule 1, the airport ~~commits~~agrees to implement the AQIP measure by working with airport tenants to achieve the performance targets. The airport will also submit annual progress reports including detailed equipment and emissions inventories, in addition to a list of replaced GSE. The equipment inventories must include equipment type, fuel type, engine model year, power rating, engine tier level, and annual activity data.

Under Schedule 2, the airport will provide annual reports that include a list of ~~conventionally fueled~~ shuttle buses in operation with associated vehicle identification number, model year, power rating, gross vehicle weight rating, fuel type, odometer reading, and annual vehicle miles travelled. ~~Additionally, a detailed emissions inventory and a list of replaced and replacement buses will be provided by the airport.~~

Long Beach Airport

The MOU schedules for Long Beach Airport are summarized in Table 3.4.

Table 3.4. MOU Schedules for Long Beach Airport

Schedule	Title and Program Description
1	Ground Support Equipment - Require that all ground support equipment associated with commercial operations achieve fleet average NOx emission factors of 0.93 and 0.44 g/bhp-hr in 2023 and 2031, respectively.

Under Schedule 1, the airport ~~commits~~agrees to implement the AQIP measure by working with airport tenants to achieve the performance targets. The airport will also submit annual progress reports including detailed equipment and emissions inventories, in addition to data on replaced GSE. The equipment inventories must include equipment type, fuel type, engine model year, power rating, engine tier level, and annual activity data.

Ontario Airport

The MOU schedule for Ontario Airport is summarized in Table 3.5.

Table 3.5. MOU Schedule for Ontario Airport

Schedule	Title and Program Description
1	Ground Support Equipment Emissions Reductions Policy - Require that all ground support equipment achieve fleet average NOx emission factors of 2.20 and 1.00 g/bhp-hr in 2023 and 2031, respectively.

Under Schedule 1, the airport ~~commits~~agrees to implement the AQIP measure by working with airport tenants to achieve the performance targets. The airport will also submit annual progress reports including detailed equipment and emissions inventories, in addition to data on replaced GSE. The equipment data will include equipment type, fuel type, engine model year, power rating, engine tier level, and annual activity data.

Chapter 4: Potential SIP Creditable Emission Reductions

Introduction
Enforceable Commitment
U.S. EPA's Integrity Element Demonstration
Technical Analyses
Funding
Legal Authority
Tracking actual emission reductions from MOU measures
Public disclosure
Reporting to U.S. EPA

Introduction

In order for the emission reductions associated with implementation of the airports' AQIP/AQIM measures to be SIP creditable, South Coast AQMD is making an enforceable commitment to U.S. EPA to achieve these emissions reductions and to ~~make up~~remedy any potential shortfall. South Coast AQMD is making this commitment based on the airports' commitment to implement the AQIP/AQIM measures specified in their respective MOUs with South Coast AQMD. Although the airports' AQIPs/AQIM include a number of measures and initiatives with potential emission reduction benefits, South Coast AQMD's commitment only covers the reductions from AQIP/AQIM measures that are eligible for SIP credits (i.e., ~~meet~~satisfy U.S. EPA's integrity elements~~ requirements~~). This chapter includes South Coast AQMD's enforceable commitment and ~~provides a demonstration of~~demonstrates how the emission reductions from these AQIP/AQIM measures satisfy the U.S. EPA's requirements.

A. Enforceable Commitment

South Coast AQMD commits to achieve 0.52 and 0.~~38~~37 tons per day (tpd) of NOx reductions in 2023 and 2031, respectively, based on implementation of the airports' AQIP/AQIM measures that are SIP creditable. In the event of any shortfall in the prospective emission reduction benefits in 2023 and 2031, South Coast AQMD commits to adopt and submit substitute measures to U.S. EPA to remedy the shortfall. South Coast AQMD will work together with the airports and other stakeholders to consider potential new or enhanced programs, or better efforts to quantify existing programs, in addressing any shortfalls.

Specifically, South Coast AQMD will do the following:

1. Beginning in 2021 and every year thereafter until 2031, ~~monitor~~track the ~~airports'~~ implementation of the airports' AQIP/AQIM measures with SIP creditable ~~emission reductions~~ emissions reductions that are specified in the MOUs with the Los Angeles International Airport, John Wayne Airport, Burbank Airport, Ontario International Airport, and Long Beach Airport based on the annual reports submitted by ~~the~~these airports as specified in ~~each~~the MOU with each ~~individual~~ airport;

2. By ~~December 31~~January 1, 2023, achieve 0.52 tpd of NOx emission reductions from the 2023 baseline inventory~~, as detailed~~ contained in the 2016 South Coast Air Quality Management Plan;

3. By ~~December 31st~~November 1st of ~~2023 and~~ each year beginning in 2021 and through 2024, report annually to U.S. EPA the following information ~~to EPA~~:
   a. Identify the portion of NOx emission reductions achieved ~~in 2022 and 2023~~and all emissions-related information necessary to independently quantify emission reductions;
   b. Document actions by the airports on implementation of the SIP creditable AQIP/AQIM measures in the MOUs; and
   c. Determine whether the implementation of SIP creditable AQIP/AQIM measures ~~will~~ in the MOUs is projected to achieve the full 0.52 tpd of NOx emission reductions in 2023.

4. If U.S. EPA determines by February 1, 2022, that information provided by South Coast AQMD is insufficient to demonstrate that emission reductions required under Paragraph 2 will occur on schedule, adopt and submit to U.S. EPA, no later than November 1, 2022, substitute measures and/or rules through a public process that will achieve emission reductions addressing the shortfall as expeditiously as practicable and no later than January 1, 2023.

~~4.~~5. By ~~December 31~~January 1, 2031, achieve 0.~~38~~37 tpd of NOx reductions from the 2031 baseline inventory~~, as detailed~~ contained in the 2016 South Coast Air Quality Management Plan;

~~5.~~6. By ~~December 31st~~November 1st of ~~2031~~each year beginning in 2024 and through 2032, report annually to U.S. EPA the following information ~~to EPA~~:

a. Identify the portion of NOx emission reductions achieved ~~in 2030 and 2031~~and all emissions-related information necessary to independently quantify emission reductions;
b. Document actions by the airports on implementation of SIP creditable AQIP/AQIM measures in the MOUs; and
c. Determine whether the implementation of SIP creditable AQIP/AQIM measures ~~will~~in the MOUs is projected to achieve the full 0.~~38~~37 tpd of NOx reductions in 2031.

7. If U.S. EPA determines by February 1, 2030 that information provided by South Coast AQMD is insufficient to demonstrate that emission reductions required under Paragraph 5 will occur on schedule, adopt and submit to U.S. EPA, no later than November 1, 2030, substitute measures and/or rules through a public process that will achieve emission reductions addressing the shortfall as expeditiously as practicable and no later than January 1, 2031.

~~6.~~8. Make each annual demonstration report publicly available or available by request

~~By December 31st of 2024 and 2032, adopt and submit substitute measures to EPA in the event of any shortfall in 2023 and 2031 reductions, respectively.~~

The annual reporting by the airports to South Coast AQMD and the South Coast AQMD's periodic reporting to U.S. EPA ensure that the projected emissions reductions will be achieved.

Table 4.1 provides a list of the airports AQIP/AQIM measures in the MOUs eligible for SIP credit and their estimated emission reductions in 2023 and 2031. These prospective SIP creditable emission reductions were estimated by South Coast AQMD staff based on the performance targets and the emission benefits for these measures specified in the AQIPs/AQIM. The methodology to estimate the SIP creditable emission reductions is provided in Appendix ~~C~~B.

Table 4.1 List of Potentially SIP Creditable AQIP/AQIM Measures and Estimated Emission Reduction Benefits

Airport	AQIP/AQIM Measure Title and Description	2023 Reductions (NOx, tpy)	2031 Reductions (NOx, tpy)
LAX	Ground Support Equipment Emissions Reduction Policy - Require that all ground support equipment operators at LAX achieve fleet average NOx + Hydrocarbon emission factors of 1.8 and 1.0 grams per brake horsepower-hour in 2023 and 2031, respectively.	146.71	98.94
LAX	LAX Alternative Fuel Vehicle Incentive Program - Implement an incentive program that will distribute up to $500,000 dollars in funding to applicants based on the "incremental cost" differential of the zero or near-zero emission vehicles as compared to conventionally-fueled equivalents with a Gross Vehicle Weight Rating (GVWR) of 14,001 pounds or greater by December 31, 2021.	0.~~17~~39	0.~~21~~52
LAX	LAWA Clean Fleet Program – Replace 20% and 100% of LAWA-owned and operated buses with zero-emission buses by 2023 and 2031, respectively.	6.40	~~12.50~~8.25
BUR	Ground Support Equipment - Require that all ground support equipment associated with commercial operations achieve fleet average ~~hydrocarbon plus~~ NOx combined emission factors of 1.~~92~~66 and 0.~~82~~74 g/bhp-hr in 2023 and 2031, respectively.	10.19	6.07
BUR	Zero-Emission Shuttle Bus Program – Replace 50% and 100% of BUR-owned and operated buses with electric buses by 2023 and 2031, respectively.	0.11	0.~~10~~07
ONT	Ground Support Equipment Emissions Reductions Policy - Require that all ground support equipment achieve fleet average NOx emission factors of 2.20 and 1.00 g/bhp-hr in 2023 and 2031, respectively.	7.83	9.93
LGB	Ground Support Equipment - Require that all ground support equipment associated with commercial operations achieve fleet average NOx emission factors of 0.93 and 0.44 g/bhp-hr in 2023 and 2031, respectively.	0.92	0.49

Table 4.1 List of Potentially SIP Creditable AQIP/AQIM Measures and Estimated Emission Reduction Benefits (cont'd)

Airport	AQIP/AQIM Measure Title and Description	2023 Reductions (NOx, tpy)	2031 Reductions (NOx, tpy)
JWA	Ground Support Equipment - Require that all ground support equipment associated with commercial operations achieve ~~a~~ fleet average NOx emission factors of 1.7 and 0.9 g/bhp-hr in 2023 and 2031, respectively.	14.53	7.46
JWA	Jet Fuel Delivery Trucks - Install a jet fuel pipeline by the end of 2019 and eliminate routine commercial aviation jet fuel delivery trucks by 2023.	1.52	1.13
JWA	Parking Shuttle Bus Electrification – Replace a minimum of 50% and 80% of airport employee and passenger remote parking compressed natural gas (CNG) shuttle buses with battery-electric shuttle buses by 2023 and 2031, respectively.	1.34	~~1.06~~0.64
	Total	190	~~138~~134

B. U.S. EPA's Integrity Element Demonstration

This subsection demonstrates how each AQIP/AQIM measure that is eligible for SIP credit satisfies the U.S. EPA's four integrity element requirements (i.e., surplus, permanent, quantifiable, enforceable).

a. Ground Support Equipment (GSE) AQIP/AQIM measures

All five airports include a GSE measure in their AQIPs/AQIMs. As such, the demonstration provided in this section regarding the compliance with the U.S. EPA's integrity element requirements covers all five ~~airports~~airports' commitments to implement their respective GSE measure. Table 4.2 presents the GSE performance targets for the five airports as specified in their AQIPs/AQIM. The performance targets are defined in terms of an airport-wide fleet-average emission factor in g/bhp-hr unit. Some airports use Hydrocarbon (HC) and NOx combined emission factors while others use NOx emission factors. CARB's In-Use Off-Road Diesel-Fueled Fleets regulation[8] and Large Spark-Ignition (LSI) Engine Fleet regulation[9] are also based on fleet average targets. The performance targets reflect the unique mix of GSE fleet at each airport and the estimated emission reductions that can be achieved based on each airport's best efforts.

[8] In-Use Off-Road Diesel-Fueled Fleets Regulation; https://ww2.arb.ca.gov/our-work/programs/use-road-diesel-fueled-fleets-regulation

[9] Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation; https://ww3.arb.ca.gov/msprog/offroad/orspark/orspark.htm

Table 4.2 GSE Performance Targets of NOx Emission Factors by Airport ~~(NOx or HC + NOx g/bhp-hr)~~

Airport	2023	2031
~~BUR[1]~~BUR	1.~~92~~66	0.~~82~~74
~~JWA[2]~~JWA	1.7	0.9
LAX[1]	1.8	1.0
~~LGB[1]~~LGB	0.93	0.44
~~ONT[2]~~ONT	2.2	1.0

[1] ~~The airport~~LAX uses a HC + NOx combined emission factor
[2] ~~The airport uses a NOx emission factor~~

All the five airports' GSE measures meet the required integrity elements as described below.

i. Surplus
Emission reductions are considered surplus when they are not otherwise required by or assumed in the SIP, SIP-related requirements, any other state or local air quality programs, a consent decree, or a federal rule designed to reduce criteria pollutant or precursor emissions. Also, emission reductions are surplus only for the remaining useful life of the vehicle, engine, or equipment being replaced.

For the GSE measures, surplus emission reductions will be achieved through the replacement of existing equipment with cleaner equipment that are above and beyond the requirements in the existing regulations applicable to GSEs. The airports have established more stringent airport-wide GSE fleet-average performance targets than those required under the current regulations affecting GSE. These regulations are briefly described below:

CARB's In-Use Off-Road Diesel-Fueled Fleets regulation applies to all off-road diesel vehicles with engines rated at 25 horsepower or greater including diesel-powered GSEs and other diesel off-road equipment and vehicles operated at the airports. The regulation requires statewide fleets to retire or retrofit older engines to achieve progressively lower average emission rates of NOx (Table 3 and 4 of CARB's regulation).
https://ww3.arb.ca.gov/msprog/ordiesel/documents/finalregorder-dec2011.pdf

CARB's LSI regulation applies to airport ground support equipment and other off-road vehicles powered by spark-ignited engines (e.g., gasoline, LPG) rated at 25 horsepower or more and greater than 1.0 liter displacement. The regulation requires that applicable statewide fleets achieve specific fleet average emission levels (FAELs) for HC and NOx. These FAELs became more stringent over time until

reaching the final level in 2013 (Table 2 of CARB's regulation). https://ww3.arb.ca.gov/msprog/offroad/orspark/largesparkappa-clean.pdf

Since the proposed GSE fleet average targets in the airports' AQIP/AQIM measures are generally more stringent than ~~those required~~the statewide fleet average requirements under these existing regulations and the reductions associated with these measures are not reflected in the SIP inventory, the emission reductions from these measures are considered surplus. To track and verify the actual emission reductions achieved, the airports will submit annual reports with detailed GSE equipment data and annual emissions inventories.

ii. Permanent

Emission reductions are considered permanent if they are achieved for the entire period that they are credited into the SIP. The emission reductions from the MOU measures are intended to help reach attainment of the 1997 and 2008 8-hour ozone National Ambient Air Quality Standards (NAAQS) in 2023 and 2031, respectively.

The emission reductions from the MOUs' GSE measures will be achieved by ~~the attainment deadlines of~~ 2023 and 2031. The airports have set their GSE fleet average performance targets to become effective by January 1, 2023 and January 1, 2031. Following the ~~MOU~~MOUs' adoption by the airport authorities and the South Coast AQMD Governing Board, the airports will begin implementing their GSE measures by working with their tenants to ~~provide sufficient time to~~ achieve the ~~target reductions~~performance targets in 2023 and 2031. The airports have ~~committed~~agreed to monitor the progress and track the implementation of their respective GSE measure to ensure that the emission reductions from these measures are permanent. Beginning 2021, the airports will provide detailed information on all GSEs subject to the measure for each preceding year to South Coast AQMD along with emission calculations to track progress toward meeting their performance targets. ~~The airports will also provide data on existing equipment that will be replaced with cleaner equipment.~~Achieving these targets will require a gradual transition to zero-emission GSE or the cleanest available GSE. The annual emissions inventories provided by the airports will represent the emissions for the remaining non-zero emission GSE and they will provide the basis for tracking progress toward achieving the projected SIP credits in 2023 and 2031, and demonstrating permanency of emission reductions. The airports will also provide data on the sale, retirement and relocation of existing equipment to other airports within the South Coast Air Basin as specified in the MOUs.

iii. Quantifiable

~~Emissions~~Emission reductions should be calculated by a reliable and replicable methodology and all analyses must be substantiated and documented.

All five airports have developed a 2017 base year GSE emissions inventory based on specific GSE data obtained from their tenants for equipment operated in 2017 at the airports (i.e., equipment type, fuel type, engine size, model year, and annual operating data). The GSE data at each airport was used in conjunction with

established calculation methodology from CARB's OFFROAD model[10] to estimate emissions. CARB's OFFROAD model provides specific parameters such as GSE emission factors by model year, deterioration factors, load factors, and average activity levels (hours/year/unit). For the 2023 and 2031 emission inventory projections, the age distribution of the GSE equipment was assumed to be the same as the 2017 base year equipment age distribution. Emission reductions expected from the implementation of the GSE measures are provided in the technical appendix of each AQIP/AQIM. While the emissions inventory and emission reduction benefits provided in the AQIPs/AQIM reflect the most updated operational data at each airport, the SIP emission reduction credits need to be based on the emissions inventory submitted to U.S. EPA as part of the 2016 AQMP. Therefore, the emission reductions provided by the airports were converted to SIP inventory currencies for consistency purposes. The reconciliation of the airports' emissions data with the 2016 AQMP emissions inventory is provided in Appendix ~~C~~B of this report.

As specified in the MOUs, airports have committed to monitor the progress of the implementation of their GSE measures and to submit annual reports to South Coast AQMD. The annual reports will include annual emission inventories including methodology and calculations as well as a detailed list of all GSE operating within their airports for each preceding year (i.e., equipment ID, equipment type, fuel type, engine model year, engine power rating, engine tier and ~~activity data).~~annual activity data). South Coast AQMD will quantify the actual reductions based on the SIP inventory currency. The SIP creditable emission reduction calculations and methodologies are provided in Appendix B of this report. As such, the emissions reductions associated with implementation of these measures are quantifiable.

iv. Enforceable

Emission reductions are enforceable if they are practically enforceable, independently verifiable, program violations are defined, and if emission-related information is publicly available. A mechanism needs to be established to monitor, assess and report on the implementation of measures and the emission reductions achieved from the measures.

Under the MOUs with South Coast AQMD, the airports have ~~committed~~agreed to implement their MOU measures including the GSE ~~measure~~measures. Each airport will implement its own mechanism to ensure that their GSE performance targets are achieved by working closely with their tenants. ~~For instance, LAWA will receive GSE fleet inventory information from their GSE operators by January 31 of each year. Based on the fleet inventory data, LAWA will calculate the GSE fleet average emission factor. If the average emission factor exceeds the GSE performance targets for LAX, the GSE operator will have to provide LAWA with an action plan within 30 days to comply with the LAX performance targets. In addition, LAWA will~~

[10] CARB Mobile Source Emission Inventory Off-Road Documentation: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-road-documentation-0

~~require each operator to identify GSEs that are being replaced, the disposal method of retired equipment, and the specifications of the new GSEs to determine compliance with the GSE performance targets. If a GSE fleet does not meet the LAX emissions target, and the failure continues for more than 60 days after the GSE operator receives a notice of failure from LAWA, the GSE operator will be deemed in breach of the measure. In such event, LAWA would take remedial actions against the GSE operator to offset the failure to reduce emissions.~~Each airport will calculate the overall fleet average GSE emission factor based on data collected from their tenants and provide all pertinent emissions data and calculations to South Coast AQMD.

~~In addition, as~~As part of the GSE schedules in the MOU, beginning in 2021, all the airports have ~~committed~~agreed to submit annual reports to the South Coast AQMD (by June of each year) for each preceding year including the following specific information, as specified in Attachment A of each MOU:

1. List of ground support equipment operating at the airport with the following information:
    a. Equipment ID
    b. Equipment type
    c. Fuel type
    d. Engine model year
    e. Power rating (hp or kW)
    f. Engine tier level (for diesel engines)
    ~~g. Annual activity data (TBD)~~

    ~~2~~g. Annual activity data for non-zero emission equipment that is sufficient to determine emission reductions at a reasonable level of accuracy (i.e., actual operating hours from hour meter readings/maintenance records, average operating hours representative of equipment type and airport, or average operating hours by equipment/fuel type from CARB's OFFROAD model, if applicable)

2. For non-zero emission ground support equipment subject to this GSE measure, information regarding the sale or retirement of equipment available through CARB's DOORS system and, for pre-Tier 4 diesel, pre-2010 gasoline, or pre-2010 LPG ground support equipment relocated from the airport to another airport within the South Coast Air Basin, identify: a) the airport to which equipment is relocated, b) date of relocation, and c) estimated projected usage hours.

3. A detailed annual emission inventory for all GSE operating at the airport, including methodology and calculations.

The airports' annual reports, the emission reductions achieved every year, and other pertinent emissions information related to the implementation of the MOU GSE measures will be fully accessible to the public and the U.S. EPA through a publicly accessible data portal on the internet provided by South Coast AQMD. As such, the emissions calculations can be independently verified.

b. LAWA's Alternative-Fuel Vehicle Incentive Program

To assist with implementation of its LAX Alternative Fuel Vehicle Requirement Program, LAWA is offering an incentive program to replace conventionally-fueled heavy-duty vehicles with zero or near-zero emission vehicles. Under this program, $500,000 of incentive funding is allocated to help offset the higher cost of zero and near-zero emission vehicles compared to conventional diesel-fueled vehicles. The funding amount is expected to incentivize the replacement of approximately 20 heavy-duty diesel trucks under this program. This measure is expected to achieve emission reductions by accelerating the natural fleet turnover from conventional diesel trucks to zero or near-zero emission trucks which are certified at 0.02 or lower g/bhp-hr of NOx. Emission reductions associated with the implementation of this measure are eligible for SIP credit as demonstrated below.

i. Surplus

Emission reductions from this measure are surplus because they are above and beyond the requirements under the existing regulations. The funding criteria of zero or near-zero emission vehicles required in this incentive measure is more stringent than the existing regulations for heavy-duty trucks, and therefore, the emission reductions that are expected to be achieved with the incentive funding are considered as surplus.

Currently, on-road heavy duty vehicles are subject to CARB's In-Use On Road Diesel-Fueled Vehicles Regulation[11], commonly referred to as the Truck and Bus Regulation. The regulation requires that heavy-duty vehicles with a gross vehicle weight rating (GVWR) greater than 14,000 pounds be retrofitted with diesel particulate filters, with implementation schedules based on truck model years. In addition, the older heavy-duty vehicles are required to be replaced according to a tiered schedule that began in 2015. By 2023, nearly all trucks and buses will be required to have model year 2010 engines or newer. The 2010 model year engine standard is 0.2 g/bhp-hr of NOx.

LAWA's Alternative-Fuel Vehicle Incentive program achieves surplus emission reductions above and beyond the existing requirements by funding near-zero or zero-emission trucks which are certified by CARB at 0.02 or lower g/bhp-hr of NOx. LAWA is administering this program through its own application process.[12]

[11] In-Use On Road Diesel-Fueled Vehicles regulation, commonly referred to as CARB Truck and Bus Regulation: https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation

[12] Zero & Near-Zero Emission Heavy-Duty Vehicle Incentive Program Application: https://www.lawa.org/-/media/lawa-web/environment/files/zero-and-near-zero-emission-heavy-duty-vehicle-incentive-program-application.ashx?la=en&hash=10DC4556153DEE5AECED40074B39D41AA0066EEE

ii. Permanent

LAWA is committed to complete the vehicle replacements through its incentive program before 2023. The emission reductions associated with these vehicle replacements are expected to be permanent as these new trucks continue their operation at LAWA as specified under the MOU. LAWA commits to submit annual reports to South Coast AQMD with specific operational activity data for these funded trucks. LAWA is also responsible for providing documentation on how the retired vehicles are scrapped or relocated outside of California. The annual reports will thus ensure the permanency of the emission reductions.

iii. Quantifiable

Emission reduction benefits from the implementation of this measure were estimated using the vehicle information provided by LAWA. The emission reductions were calculated based on the vehicle model year, CARB's 2023 requirement for trucks meeting the 2010 engine standard, and the emission certification level for near-zero trucks. Each vehicle selected for the funding award is required to submit the following information, as required by LAWA:

- Existing vehicle that is being replaced:
  - Vehicle type
  - Vehicle make
  - Vehicle Gross Vehicle Weight Rating (GVWR)
  - Vehicle Model
  - Vehicle Model Year
  - Engine Model Year
  - Registered Owner
  - Department of Transportation Number (if interstate)
  - California Highway Patrol CA Number (if applicable)
  - Total Annual Miles Traveled: or gallons of fuel used

- Replacement vehicle:
  - ARB Certification Executive Order (EO) Number
  - Propulsion System Engine Make
  - Propulsion System Engine Model Year
  - Propulsion System Engine Model
  - Fuel Type (Fuel Cell, Battery, etc.)
  - Engine Family

While detailed methodology to estimate emission reductions are provided in LAWA's AQIM, the above data will ensure that the actual emission reductions are quantified correctly under this measure. The SIP creditable emission reduction calculations and methodology ~~and calculation is~~are provided in Appendix ~~C~~B of this report.

iv. Enforceable

Under the MOU with South Coast AQMD, LAWA is committed to implement this program through its Alternative Fuel Vehicle Incentive Program described above. LAWA's Board of Airport Commissioners approved the Incentive Program in December 2018. Beginning in 2021, LAWA will also submit annual reports to the South Coast AQMD (by June of each year) for each preceding year including emissions inventory reports and the following specific information for trucks participating in this program:

1. Zero or near-zero Vehicle Identification Number
2. Zero or near-zero vehicle model year
3. Zero or near-zero vehicle GVWR
4. Zero or near-zero vehicle engine model year
5. Zero or near-zero vehicle engine power rating
6. Zero or near-zero vehicle fuel type
7. Executive Order number for the zero or near-zero vehicle engine
8. Zero or near-zero vehicle annual VMT
9. List of, and information on, replaced vehicles (e.g., scrapped)
10. A detailed emission inventory for near-zero or zero-emission trucks, including methodology and calculations.

The annual reports, the emission reductions achieved every year, and other pertinent emissions information related to the implementation of this MOU measure will be fully accessible to the public and the U.S. EPA through a publicly accessible data portal on the internet provided by South Coast AQMD. As such, the emissions calculations can be independently verified.

c. Bus Electrification measures

Three (LAX, BUR, and JWA) of the five airports propose to replace existing buses with zero-emission (ZE) electric buses. LAWA will replace its bus fleet (currently 84 buses) that provides transportation for passengers between the aircrafts' gates in the airfield and the airport terminals and for guests traveling between airport parking and passenger terminals (20% in 2023 and 100% in 2031). BUR will replace its buses providing transportation for guests traveling between airport parking and the passenger terminal (50% in 2023 and 100% in 2031). JWA will replace ~~10~~a minimum of ~~12~~ 50% and 80% of Airport employee and passenger remote parking compressed natural gas (CNG) shuttle buses ~~that operate for~~with battery-electric shuttle buses by 2023 and 2031, respectively. JWA airport currently has 12 CNG shuttle buses in operation to transfer passengers and airport employees between off-site parking lots and the airport terminal ~~(6 in 2023 and 4 in 2031).~~). The emissions calculations are based on conversion of these shuttle buses. All three measures target either existing diesel-fueled or CNG-fueled buses to be replaced with ZE electric buses. While the target fleets are different among three airports, the measures are similar for the purpose of demonstrating integrity elements as described here.

i. Surplus

Emissions reductions from these measures are surplus because these reductions are above and beyond those required under existing regulations.

There are three existing regulations affecting buses operating at airports. First, CARB's In-Use On Road Diesel-Fueled Vehicles regulation requires the replacement of existing diesel trucks and buses with a GVWR greater than 14,000 pounds to be equivalent to the 2010 or newer engine model year exhaust emissions standards by 2023. Because the airports plan to replace their existing buses with electric zero-emission buses, the ~~emissions~~emission reductions ~~above~~beyond those achieved by compliance with the 2010 engine standard of 0.2 g/bhp-hr NOx would be considered surplus in 2023 and 2031.

Second, South Coast AQMD Rule 1194 requires airports and operators of ~~both~~ public ~~and private~~ fleets providing passenger transportation services out of commercial airports to acquire low emission or alternative-fueled vehicles. This rule applies to passenger cars, light-duty trucks, and medium- and heavy-duty transit vehicle fleets of 15 or more vehicles operated by the airport authority or any other public ~~or private~~ fleet operators that transport passengers from commercial airports~~. Passenger~~ or private fleets under contract or exclusive franchise to the airport. These described passenger shuttle buses and taxi cabs serving airports must comply with this rule as well. The rule requires fleets to use alternative fuel vehicles when serving in and out of the airports. Because the airports plan to replace its existing CNG shuttle buses with electric ZE buses, the resulting emission reductions would be surplus to the requirements of Rule 1194.

Third, CARB's Zero-Emission Shuttle Bus regulation[13], adopted by the CARB Governing Board in June 2019, requires that at least 33%, 66%, and 100% of airport shuttle fleets be zero-emission vehicles by December 31, 2027, 2031 and 2035, respectively. It also requires fleet owners to report fleet information annually starting in 2022 and to have zero-emission certificates for 2026 and later model year vehicles. LAWA plans to replace 20% of LAWA-owned buses with ZE buses at LAX by 2023. BUR plans to replace 50% of its contracted buses with ZE buses by 2023. JWA plans to replace ~~40~~50% of its contracted CNG buses with JWA-owned ZE buses by 2023. Because the replacement requirement under CARB's regulation does not start until 2027, all replaced buses by the airports by 2023 will be surplus to the regulation. ~~By~~In 2031, however, only ~~34~~67% of the buses that LAX and BUR plan to replace will be surplus based on the ~~66~~33% zero-emission bus replacement requirement in ~~2031~~2027 under CARB's regulation. For JWA ~~plans to replace 80% of buses with ZE buses by 2031. Thus, 16%,~~ six of the ~~replacement ZE~~ten electric buses will still be surplus to the regulation in 2031.

ii. Permanent

[13] CARB Zero-Emission Airport Shuttle regulation; https://ww2.arb.ca.gov/our-work/programs/zero-emission-airport-shuttle

All three airports have phase-in schedules for the deployment of ZE buses by January 1, 2023 and January 1, 2031 under their respective measures. Following the MOU adoption by the airport authorities and the South Coast AQMD Governing Board, the airports will begin implementing their respective bus electrification measure.

Beginning 2021, the airports will submit annual reports to South Coast AQMD that include detailed information on shuttle buses replaced for each preceding year along with emission calculations to track progress toward meeting the performance targets. In the annual reports, LAWA, BUR and JWA will also provide documentation regarding the ~~existing~~operation of their buses to ensure that the emission reductions are permanent.

iii. Quantifiable

Emission reduction benefits are estimated using vehicle specific information for ZE shuttle buses (i.e., vehicle miles traveled per year) along with applicable emission factors from CARB's EMFAC model.[14]

Under the MOUs, both airports have committed to monitor the progress of the implementation of their respective zero-emission bus replacements and to submit annual reports to South Coast AQMD including a detailed annual emission inventory for each preceding year. The report will also include information on the calculations and methodology to further substantiate the emission reductions from the measure.

Further details for calculating the emission reductions are included in the technical support document portion of each airport's AQIP/AQIM. The SIP credit calculation methodology for these measures will be based on the VMTs for these ZE buses and the corresponding EMFAC emission factors as described in Appendix ~~C~~B of this staff report.

iv. Enforceable

Under the MOUs with South Coast AQMD, LAWA, BUR, and JWA have ~~committed~~agreed to implement these measures. Beginning in 2021, LAWA, BUR and JWA are also committed to submit annual reports to the South Coast AQMD (by June of each year) for each preceding year including the following specific information for buses covered under these measures:

1. List of buses operating at the airport with the following information:
    a. Vehicle Identification Number
    b. Vehicle model year
    c. GVWR
    d. Engine model year
    e. Engine power rating
    f. Vehicle fuel type

[14] https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-modeling-tools

g. Odometer reading
h. Annual vehicle miles travelled

2. A detailed emission inventory for buses, including methodology and calculations.
3. List of buses replaced during the reported year and above listed information on both replaced and replacement buses ~~including documentation for proof of scrappage or equipment or moved out of state.~~

The annual reports, the emission reductions achieved every year, and other pertinent emissions information related to the implementation of these MOU measures will be fully accessible to the public and the U.S. EPA through a publicly accessible data portal on the internet provided by South Coast AQMD. As such, the emissions calculations can be independently verified.

d. JWA Jet Fuel Pipeline Installation measure

JWA will install a new pipeline to transport jet fuel to a new storage tank at the airport facility by the end of 2019. This project eliminates routine commercial aviation jet fuel delivery trucks before 2023.

i. Surplus

Fuel delivery trucks are covered under CARB's In-Use On Road Diesel-Fueled Vehicles regulation (described in previous sections), which requires that all existing trucks meet the 2010 model year engine standard by 2023. Therefore, since this measure eliminates emissions from jet fuel delivery trucks to the airport, the reductions above and beyond the existing regulation are considered surplus.

ii. Permanent

JWA plans to complete the pipeline project by the end of 2019 and once constructed, the pipeline will ~~replace the delivery of~~eliminate routine commercial passenger jet fuel ~~by~~delivery trucks ~~permanently~~.

Beginning 2021, JWA will submit annual reports to South Coast AQMD, for each preceding year, to document the implementation of this measure and the permanency of the emission reductions. The annual report will provide data on the existing routine and non-routine commercial ~~aviation~~passenger jet fuel delivery trucks (number of trucks trips, truck model year, and vehicle miles traveled), volume of fuel delivered by trucks, and an emissions inventory for trucks including methodology and calculations.

iii. Quantifiable

The new jet fuel pipeline will eliminate the emissions associated with the existing routine commercial passenger jet fuel delivery trucks. Emission reduction benefits resulting from the measure are estimated by using information provided by JWA on fuel delivery trucks and applying emission factors from CARB's EMFAC model. The annual reports provided by JWA will ensure that the emission reductions

estimated from the eliminated truck delivery trips are real and quantifiable in subsequent years.

Further details for calculating the emission reductions are included in the technical support document portion of JWA's AQIP. The SIP credit calculation methodology for these measures will be based on the VMTs for these trucks and the corresponding EMFAC emission factors as described in Appendix ~~C~~B of this staff report.

iv. Enforceable
Under the MOU with South Coast AQMD, JWA is committed to implement the measure. Beginning in 2021, JWA is also committed to submit an annual report to the South Coast AQMD (by June of each year) for each preceding year including the following specific information for this measure:

1. Total number of routine and non-routine truck trips delivering jet fuel for commercial passenger aviation, and truck model years, if available.
2. Total amount of jet fuel delivered.
3. An estimate of total vehicle miles travelled.
4. A detailed emission inventory for fuel delivery trucks, including methodology and calculations.

The annual reports provided by JWA will include specific information that will ~~enable and~~to independently verify emission reduction benefits. The information will also become part of the record keeping and will be maintained for public access throughout the MOU period.

C. Technical Analyses

The airports have provided emissions inventories for base year (2017) and two future milestone years (2023 and 2031) under the business-as-usual scenario and the MOU implementation scenarios. These inventories are included in the airports' AQIPs and AQIM. The South Coast AQMD has also provided the necessary documentation and technical analysis for estimating SIP related emission reduction benefits in Appendix ~~C of this staff report.~~B of this staff report. South Coast will make the annual reports submitted by the airports (beginning in 2021), emissions calculations and methodologies, and other pertinent emissions data publicly accessible.

D. Funding

LAWA's Alternative-Fuel Vehicle Incentive Program is the only AQIP/AQIM measure that is based on incentive funding to implement the program. LAWA has allocated a total of $500,000 for this incentive program, which has already been approved by the airport's authority. LAWA will be responsible for administering its own program.

E. Legal Authority

Pursuant to Section 40702 of the California Health and Safety Code, South Coast AQMD "shall adopt rules and regulations and do such acts as may be necessary or proper to execute the powers and duties granted to, and imposed upon" South Coast AQMD. Moreover, Section 40701(f) of the California Health and Safety Code provides that a district shall have power to "cooperate and contract with any federal, state, or local governmental agencies, private industries, or civic groups necessary or proper to the accomplishment of the purposes of this division." Such acts that are necessary to attain the federal ozone NAAQS in 2023 and 2031 include entering into MOUs with the airport authorities to achieve emission reductions from non-aircraft related mobile sources at the airports.

F. Tracking actual emission reductions from MOU measures

Beginning in 2021, the airports have ~~committed~~agreed to submit annual reports to South Coast AQMD on their eligible SIP creditable AQIP/AQIM measures in the MOUs. The annual reports will contain detailed information on the implementation of these measures including equipment and vehicle data (e.g., engine size, model year, annual operating data, etc.), annual emissions inventories along with methodologies and calculations, and information on ~~replaced~~existing equipment and vehicles ~~including,~~(e.g., retired, sold, and relocated within South Coast Air Basin), where applicable~~, documentation regarding proof of scrappage or equipment being moved out of state~~. The annual reports will be made available to the public by South Coast AQMD so any progress on emission reduction benefits toward the final ~~goal~~emission reduction targets can be calculated and validated by the public.

G. Public disclosure

The South Coast AQMD will provide public access to all information related to the emission reductions associated with implementation of the ~~AQIP's~~AQIPs/AQIM's eligible SIP creditable measures in the MOUs. Also, the public will have access to the annual reports submitted by the airports to the South Coast AQMD, as described in the previous sections~~.~~, to independently verify emission calculations. The South Coast AQMD plans to post the annual reports within 30 days of ~~the~~ receipt for access by the public.

In order to ensure easy accessibility to the information, the South Coast AQMD will post the emission related documents on the South Coast AQMD website~~. A new~~ under the existing "Airports MOU" topic page ~~will be created once the MOUs have been adopted by the airport authorities and the South Coast AQMD Governing Board and subsequently submitted to CARB for submittal to EPA. Also, there will be contact~~. Contact information to address any further inquiries from the public regarding the posted information is also available on the page.

H. Reporting to U.S. EPA

By June 1st of each year beginning in 2021 and through the MOU term ending in ~~2031~~2032, the airports will provide annual reports to South Coast AQMD on implementation of the eligible SIP creditable AQIP/AQIM measures identified in the MOUs. The annual reports will include detailed equipment/vehicle data and emission calculations to demonstrate progress toward

meeting the performance targets in these measures. Based on information in the annual reports provided by the airports, South Coast AQMD will quantify the corresponding SIP creditable actual emission benefits achieved from implementation of the MOU measures and provide reports to U.S. EPA to document these reductions. South Coast AQMD's detailed reporting commitments to U.S. EPA are specified in Section A of this chapter.

~~For the 2023 emission reduction commitment (0.52 tpd), South Coast AQMD will report to EPA by December 31st of 2023 and 2024. For the 2031 emission reduction commitment (0.38), South Coast AQMD will report to EPA by December 31st of 2031 and 2032. The reports to EPA will identify the emission reductions achieved each year, document actions by the airports on implementation of the eligible SIP creditable AQIP/AQIM measures, and determine whether the implementation of the MOU measures will achieve the full NOx reductions in 2023 and 2031. Each demonstration report will be publicly available or available by request.~~

~~In the event of any potential shortfalls of emission reduction benefits, a process will be triggered to remediate the shortfall with the airports as described above. By December 31st of 2024 and 2032, South Coast AQMD will adopt and submit substitute measures to EPA in the event of any shortfall in 2023 and 2031 reductions, respectively.~~

Chapter 5: California Environmental Quality Act (CEQA) and Socioeconomic Assessment

CEQA Analysis

Pursuant to the California Environmental Quality Act (CEQA), the South Coast AQMD, as Lead Agency, has reviewed the proposed project pursuant to: 1) CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA; and 2) CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA.

The proposed project is comprised of five MOUs between the South Coast AQMD and five commercial airports, and South Coast AQMD's enforceable commitment to U.S. EPA to backstop any emission reductions shortfall. The MOUs outline each airport's AQIP or AQIM measures that are capable of achieving SIP credit. The act of voluntarily agreeing to enter into MOUs with the five airports, as well as quantifying emissions for the purpose of establishing an enforceable commitment are administrative and procedural in nature. Thus, South Coast AQMD staff has determined that it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment. Therefore, the project is considered to be exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption.

Further, as provided in CEQA Guidelines Section 15306 – Information Collection, the proposed project is exempt from CEQA because it will consist of basic data collection, research and resource evaluation activities and will not result in a serious or major disturbance to an environmental resource. Additionally, because the proposed project is designed to further protect or enhance the environment by supporting the reduction of non-aircraft mobile source emissions at five commercial airports within South Coast AQMD's jurisdiction, the proposed project is also categorically exempt from CEQA pursuant to CEQA Guidelines Section 15308 – Actions by Regulatory Agencies for Protection of the Environment.

Finally, South Coast AQMD staff has determined that there is no substantial evidence indicating that any of the exceptions to the categorical exemptions apply to the proposed project pursuant to CEQA Guidelines Section 15300.2 – Exceptions. Therefore, the proposed project is exempt from CEQA. A Notice of Exemption for each airport MOU has been prepared pursuant to CEQA Guidelines Section 15062 – Notice of Exemption and is included in Attachment C of this Governing Board package. If the proposed project is approved, the Notices of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside and San Bernardino counties.

Summary of CEQA Analyses Conducted by Each Airport

Each airport conducted a CEQA analysis of the potential environmental impacts of incorporating selected measures from their AQIP or AQIM, as applicable, into their respective MOUs. The following background summary of each airport's CEQA analysis has been provided for informational purposes.

Los Angeles International Airport

The LAX AQIM consists of 11 measures and the LAX MOU incorporates the following three measures: 1) the ground support equipment emissions reduction policy; 2) the LAX alternative fuel vehicle incentive program; and 3) the zero emission bus program. The CEQA analysis conducted by the City of Los Angeles Department of Airports, as presented in the following pending record of adoption, concluded that the LAX MOU is exempt from CEQA[15]:

> *"1. DETERMINE that this action is administratively exempt from the California Environmental Quality Act (CEQA) pursuant to Article II, Section 2.n of the Los Angeles City CEQA Guidelines.*
>
> *2. General policy procedure making is administratively exempt from California Environmental Quality Act (CEQA) requirements pursuant to Article II, Section 2.n of the Los Angeles City CEQA Guidelines."*

The proposed adoption of the LAX MOU and the corresponding CEQA exemption determination will be considered by the City of Los Angeles Department of Airports at the November 7, 2019 regular meeting of the Board of Airport Commissioners.

John Wayne Airport

The JWA AQIP consists of 13 measures and initiatives and the JWA MOU incorporates the following three measures: 1) ground support equipment; 2) jet fuel delivery trucks; and 3) parking shuttle bus electrification. The County of Orange conducted multiple CEQA analyses for its various components of the JWA AQIP, as follows:

1. AQIP Measure "Jet Fuel Delivery Trucks" was previously analyzed in the Initial Study (No. CPP 2013-00087) and Mitigated Negative Declaration for the John Wayne Airport New Jet Fuel Pipeline and Tank Farm, which was adopted by the Director of Orange County Planning on May 8, 2014. Mitigation measures were made a condition of project approval and a Mitigation Monitoring and Reporting Program was also adopted for the project in May 2014[16].

2. The remaining AQIP measures and initiatives were previously analyzed in the Final Environmental Impact Report (EIR) No. 617 for the John Wayne Airport Settlement Agreement Amendment which was certified by the Orange County Board of Supervisors on September 30, 2014. Mitigation measures were made a condition of project approval and a Mitigation Monitoring and Reporting Program was also adopted for the project. In particular, Mitigation Measure AQ/GHG-4 required the development of a Climate Action Plan and the JWA MOU includes emission

[15] City of Los Angeles Department of Airports, Regular Meeting of the Board of Airport Commissioners, scheduled for November 7, 2019.

[16] County of Orange, Initial Study (No. CPP 2013-00087) and Mitigated Negative Declaration for the John Wayne Airport New Jet Fuel Pipeline and Tank Farm; http://www.ocpublicworks.com/ds/planning/projects/2nd_district/2nd_district_archived/is_mnd_john_wayne_airport_new_jet_fuel_pipeline_and_tank_farm_and_appendices.

reduction strategies that are consistent with and incorporated into this mitigation measure[17].

The Orange County Board of Supervisors also conducted a CEQA analysis for incorporating the three measures of JWA AQIP into the JWA MOU and determined that the JWA MOU is exempt from CEQA because the JWA MOU: 1) will not have a significant effect on the environment because it is an action taken by a regulatory agency to assure the maintenance, restoration, enhancement, or protection of the environment per CEQA Guidelines Section 15308; and 2) includes basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource per CEQA Guidelines Section 15306.

The Orange County Board of Supervisors also noted that no substantial changes have been made to the projects previously analyzed in the Initial Study and Mitigated Negative Declaration for the John Wayne Airport New Jet Fuel Pipeline and Tank Farm, the Final EIR No. 617 for the John Wayne Airport Settlement Agreement Amendment, or to Mitigation Measure AQ/GHG-4. Further, no substantial changes have occurred in the circumstances under which the JWA MOU is being undertaken, and no new information of substantial importance to the projects previously analyzed in the Initial Study and Mitigated Negative Declaration for the John Wayne Airport New Jet Fuel Pipeline and Tank Farm, the Final Environmental Impact Report No. 617 for the John Wayne Airport Settlement Agreement Amendment, or Mitigation Measure AQ/GHG-4, which was not known, or could not have been known, when the Initial Study and Mitigated Negative Declaration for the John Wayne Airport New Jet Fuel Pipeline and Tank Farm was adopted, and when the Final EIR No. 617 for the John Wayne Airport Settlement Agreement Amendment was certified. Therefore, no further environmental review of these project components is required.

The proposed adoption of the JWA MOU and the corresponding CEQA exemption determination will be considered by the Orange County Board of Supervisors at the November 19, 2019 Meeting[18].

Long Beach Airport

The LGB AQIP consists of seven measures and initiatives and the LGB MOU incorporates one measure that pertains to ground support equipment. The CEQA analysis conducted by the City of Long Beach as presented in the following pending record of adoption, concluded that the LGB MOU is exempt from CEQA[19]:

[17] County of Orange, Mitigation Monitoring and Reporting Program for Final Environmental Impact Report No. 617 for the John Wayne Airport Settlement Agreement Amendment, SCH No. 2001111135; https://www.ocair.com/communityrelations/settlementagreement/docs/MitigationMonitoringAndReportingProgramForEIR617.pdf; and http://cams.ocgov.com/Web_Publisher/Agenda05_07_2019_files/images/O00119-000429A.PDF.

[18] Orange County Board of Supervisors Meeting, scheduled for November 19, 2019.

[19] City of Long Beach, Approve Memorandum of Understanding Between the South Coast Air Quality Management District and City of Long Beach (acting in its capacity as the owner and operator of Long Beach Airport), November 19, 2019 (Pending)

"This MOU is a project that has been determined to not have a significant effect on the environment and which, is therefore, exempt from the provisions of CEQA because it is an action taken by a regulatory agency to assure the maintenance, restoration, enhancement, or protection of the environment (CEQA Guidelines Section 15308) and includes basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource (CEQA Guidelines Section 15306)."

The proposed adoption of the LGB MOU and the corresponding CEQA exemption determination will be considered by the Long Beach City Council at the November 19, 2019 meeting.

Ontario International Airport

The ONT AQIP consists of nine measures and initiatives and the ONT MOU incorporates one measure that pertains to the ground support equipment emission reductions policy. The CEQA analysis conducted by the Ontario International Airport Authority, as presented in the following record of adoption, concluded that the ONT MOU is exempt from CEQA[20]:

"The ONT MOU is a project that has been determined to not have a significant effect on the environment and which, is therefore, exempt from the provisions of CEQA because it is an action taken by a regulatory agency to assure the maintenance, restoration, enhancement, or protection of the environment (CEQA Guidelines Section 15308) and includes basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource (CEQA Guidelines Section 15306)."

The ONT MOU and the corresponding CEQA exemption determination was considered and approved by the Ontario International Airport Authority Commission at the October 29, 2019 meeting.

Burbank Airport

The BUR AQIP consists of nine measures and initiatives and the BUR MOU incorporates the following two measures: 1) ground support equipment; and 2) the zero-emission shuttle bus program. The CEQA analysis conducted by the Burbank-Glendale-Pasadena Airport Authority, as presented in the following record of adoption, concluded that the BUR MOU is exempt from CEQA[21]:

"This MOU is a project that has been determined to not have a significant effect on the environment and which, is therefore, exempt from the provisions of the California Environmental Quality Act (CEQA) because it is an action taken by a regulatory agency, as authorized by state of local ordinance, to assure the maintenance, restoration,

[20] Ontario International Airport Authority, Agenda Item 10 10 (administrative discussion/action/report): Approve Memorandum of Understanding Between the South Coast Air Quality management District and Ontario International Airport Authority, October 29, 2019. https://www.flyontario.com/sites/default/files/agenda_packet_-_20191029_-_public.pdf

[21] Burbank-Glendale-Pasadena Airport Authority, Special Commission Meeting. November 4, 2019. http://hollywoodburbankairport.com/wp-content/uploads/2019/11/11-4-19-BGPAA-Commission-Agenda.pdf

enhancement, or protection of the environment (CEQA Guidelines Section 15308) and includes basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource (CEQA Guidelines Section 15306).

The BUR MOU and the corresponding CEQA exemption determination was considered and approved by the Burbank-Glendale-Pasadena Airport Authority Commission at the November 4, 2019 meeting.

In addition, BUR AQIP measures pertaining to the sustainable design and construction program as well as the trip reduction measures were previously analyzed in the Final Environmental Impact Report for a Replacement Airline Passenger Terminal at Burbank Bob Hope Airport, which was previously certified on July 11, 2016. BUR representatives also provided the following statement regarding the details about their CEQA analysis for the sustainable design and construction program as well as the trip reduction measures[22]:

In addition, the Final Environmental Impact Report for a Replacement Airline Passenger Terminal at Burbank Bob Hope Airport (State Clearinghouse Number 2015121095) is previously certified by the Authority on July 11, 2016 and reflects the independent judgment of the Authority and satisfies the requirements of CEQA for the sustainable design and construction program and trip reduction measures in the BUR AQIP."

Socioeconomic Assessment

The Facility-Based Mobile Source Measure for Commercial Airports will be implemented through voluntary Memorandum of Understandings (MOUs) with the five commercial airports based on each airports' implementation of Air Quality Improvement Plans/Measures (AQIPs/AQIMS) measures specified in the MOUs. No socioeconomic impacts beyond the impacts for these measures already proposed by the airports are expected from implementing these voluntary programs.

[22] Hollywood Burbank Airport, Final Environmental Impact Report for a Replacement Airline Passenger Terminal at Burbank Bob Hope Airport, SCH No. 2015121095; https://elevatebur.com/documents/.

Chapter 6: Response to Public Comments

Delta Airlines
Sierra Club

Delta Air Lines, Inc.
1020 Delta Blvd
Bldg A2, Floor 5, Dept 885
Atlanta, GA 30354

October 21, 2019

Sang-Mi Lee, Ph.D.
Program Supervisor
South Coast AQMD
21865 Copley Drive
Diamond Bar, CA 91765

RE: Commercial Airports Memoranda of Understanding

Delta Air Lines, Inc (Delta) is submitting this comment letter regarding the Facility-Based Mobile Source Measure for Commercial Airports and related Memoranda of Understanding (MOUs) with each commercial airport in the South Coast Basin. Delta understands that the MOUs represent voluntary agreements between South Coast AQMD and each commercial airport with each party having specific responsibilities and commitments.

Air Quality Improvement Plans (AQIPs) and/or Air Quality Improvement Measures (AQIMs) with specific measures and initiatives to reduce emissions from non-aircraft mobile sources related to each participating airport's operations have been drafted by each participating airport. The purpose of the MOUs with commercial airports is to set forth the procedures by which the South Coast AQMD will quantify the emission reduction benefits associated with the implementation of specified components of the airports' respective AQIP or/ AQIM strategies that are eligible for State Implementation Plan (SIP) credit.

Even though Delta and other airlines are not parties to the MOUs, the airlines will be asked to help the airports and the South Coast AQMD achieve the emission reduction benefits. This will require substantial capital investment by Delta and other participating equipment owners. Despite this significant cost, Delta looks forward to working with the airports, the South Coast AQMD and other stakeholders as part of Delta's overall commitment to environmental sustainability. 1-1

Delta would like to comment on five specific items we feel are critical to successful implementation, and ask that they be taken into consideration in the drafting of the MOU and associated goals:

1. Charging infrastructure at an airport must be sufficient to meet the demand for electric replacements;
2. Tracking individual unit activity is not feasible;
3. Emission factors need to be standardized and commonly applied at each airport;
4. Redevelopment initiatives must coincide with infrastructure upgrades;
5. Any decision to retire an asset is at the owner's discretion.

Delta provides the following additional commentary related to these five concerns:

1. Charging infrastructure at an airport must be sufficient to meet the demand for electric replacements

Delta's ground support equipment (GSE) fleet is a critical part of our overall operation. GSE must be readily available and operational in order to ensure we fulfill our commitments to passengers and other customers. There must be one charging station for every 2-3 electric GSE units to perform adequately and avoid out of service time. The chargers must fit the required physical specifications and electrical requirements in order for the GSE and batteries to have a prolonged life cycle. Furthermore, charging stations must be located such that they are readily accessible and do not require long travel times to be utilized. In order to ensure these operational requirements are met, each airport authority must achieve this minimum for charging capacity in advance of equipment owners exchanging additional equipment for electric powered GSE. Delta stands ready to invest in a cleaner GSE fleet, but it will be critical for each airport to coordinate with Delta and other airlines in order to ensure that the aggressive GSE emission reduction targets included in the MOUs can be achieved on schedule. 1-2

2. Tracking individual unit activity is not feasible

Delta does not currently have data for all GSE that would allow us to accurately account for usage to be reported on an individual piece-of-equipment by piece-of-equipment basis[1]. It would be an extreme burden to routinely collect usage data for all GSE due to the hundreds of pieces of equipment in active service. Further certain units do not have working hour meters and/or odometers. Particularly given the extraordinary investment that Delta is prepared to make to help the airports and South Coast AQMD achieve the emissions reductions targets set forth in the MOUs, it is vital that the MOUs not impose unnecessarily burdensome, and ultimately infeasible, requirements on the airlines. If the MOUs were to include unrealistic and unachievable methodologies—including without limitation a requirement to track individual unit activities—this would ultimately prevent the South Coast AQMD and the airports from fulfilling the MOUs' procedural requirements, and inhibit the South Coast AQMD's and airports' shared goals of achieving SIP-creditable emission reductions. Accordingly, Delta strongly urges that the MOUs allow the airports to identify GSE fleet emission reductions based on a per-piece utilization average. Final methodologies should be mutually determined following adoption of the MOU in cooperation with Delta and the other airlines, based on confirmation that the proposed methodology is feasible and not unnecessarily burdensome. Please remove the annual activity data requirement from the MOU. 1-3

3. Emission factors need to be standardized and commonly applied at each airport

Each airport must clearly define how emission factors will be assessed for each type of GSE and engine. These must correspond with the target units. Certain CARB standards, specifically those that apply to on-road equivalents, will evidently not be used by individual airports and when new standards are applied equipment owners need to understand how to identify the impact of each engine in their fleet. 1-4

4. Redevelopment initiatives must coincide with infrastructure upgrades

In light of the various redevelopment projects planned and underway at the commercial airports within the South Coast Basin, it is necessary to use good judgment with the timing of infrastructure changes so as not to create a burden with respect to existing construction timeframes. If unavoidable construction delays occur during redevelopment in particular, we urge that investments in electric charging infrastructure be (i) timed to coincide with the timeframes established in the MOUs; and (ii) properly coordinated to avoid the need to install and then promptly replace charging infrastructure as a result of a planned redevelopment project. In addition, because upgrades in electric charging infrastructure are 1-5

1. In cases where we wish to claim a low usage exemption then hour meter readings are collected monthly, but this is an extremely small portion of our fleet.

often timed to coincide with redevelopment projects, we caution that delays in the redevelopment process could impact an operators' ability to increase electric engines in their GSE fleets. Accordingly, coordination, regular communication, and advance planning between the airports and each airline and GSE fleet operator will be required. By way of example, but not limitation, increases in electric engines in Delta's GSE fleet at LAX is dependent on the timely completion of Terminals 2 and 3 because those upgrades will include the expanded charging infrastructure necessary to support additional electric GSE equipment. Similar coordination of redevelopment activities, new electric charging infrastructure, and purchases of electric GSE equipment will be needed at other South Coast Basin airports. 1-5

5. Any decision to retire an asset is at the owner's discretion

Within the past 72 hours, comments have been documented during public meetings that equipment removed from service in the South Coast basin must be scrapped. This last-minute change — made despite the fact that this issue was never raised at any of the public meetings held over the prior sixteen (16) months — is unacceptable. This idea does not take into account the fact that an asset removed from LAX, for instance, may very well be newer, be in better condition or have lower emissions levels than another asset it could replace in another area of Delta's operation outside of the South Coast basin. The owner should have full discretion as to whether or not an asset has met the end of its useful life, and if they will choose to retire it or relocate it out of the South Coast basin. In short, this last-minute change:

- would not reduce emissions within the South Coast basin;
- would impede efforts to reduce emissions outside the South Coast basin;
- violates basic principles of transparency in decision-making and the public process;
- would impose a heavy burden on equipment owners who will bear the burden of implementing measures contemplated by the MOU; and
- would put at risk the ability to implement other measures contemplated by the MOU.

1-6

For all these reasons, we strongly and respectfully urge the AQMD and airports to refrain from accepting this last-minute change to the MOUs and AQIPs / AQIMs.

Thank you for this opportunity to comment, and Delta looks forward to working with South Coast AQMD and each airport authority to ensure success in achieving the important goals of the MOUs.

Sincerely,

Cheryl Meyers
Program Manager – Air Quality, Delta

CC:
Los Angeles World Airports
John Wayne Airport, Orange County
Ontario International Airport Authority

Responses to Comment Letter from Delta Airlines, Inc. (Comment Letter 1)

Response to Comment 1-1:

Staff acknowledges the comments by Delta Airlines and appreciates Delta's commitment to environmental sustainability.

Response to Comment 1-2:

The airport-specific performance targets account for the unique circumstances and operational capabilities of each airport. The airports have agreed to the airport-wide fleet average performance targets while taking into account the necessary infrastructure to achieve these performance targets. The airports are expected to coordinate with all their tenants to ensure the infrastructure needs are met.

Response to Comment 1-3:

South Coast AQMD appreciates the concerns raised by Delta regarding the reporting of equipment-specific activity data. Annual activity data is critical for calculating GSE emissions reductions and satisfying U.S. EPA's integrity elements necessary for SIP credit. Given the upcoming attainment deadlines for meeting the ozone standard and the substantial amount of NOx reductions needed, it is critical that we obtain as many SIP-creditable reductions as possible.

The MOU schedules for GSE measures have been revised to allow for flexibility in reporting annual activity data. Specifically, airlines and operators may choose from the following three options:

1. Actual operating hours from hour meter readings/maintenance records
2. Average operating hours representative of equipment type and airport
3. Average operating hours by equipment/fuel type from CARB's OFFROAD model, if applicable

Staff believes that these options offer significant flexibility to airlines and operators for reporting annual activity data. However, it is imperative that activity data be reported as such data is necessary for South Coast AQMD and the public to independently verify emission reductions.

Response to Comment 1-4:

The emission factors can be obtained from CARB's OFFROAD Model for each piece of equipment based on fuel type, engine size, and model year. If airports use other data sources, they will need to substantiate the applicability of these factors.

Response to Comment 1-5:

Staff acknowledges the need to coordinate redevelopment projects with airlines and operators. It will be the airports' responsibilities to coordinate with their tenants on these efforts to achieve the performance targets.

Response to Comment 1-6:

There are no requirements in the MOUs for scrapping old equipment. However, for tracking purposes, airports are required to report information on the retirement and sale of equipment reported in CARB's DOORS system and identify any pre-Tier 4 diesel and pre-2010 gasoline/LPG GSE relocated to other airports within the Basin.

October 24, 2019

Zorik Pirveysian
Planning and Rules Manager
South Coast Air Quality Management District
21865 Copley Drive
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zpirveysian@aqmd.gov

Dear Mr. Pirveysian:

Sierra Club is writing to comment on the Facility-Based Mobile Source Measures (FBMSM) for Commercial Airports Memorandum of Understanding (MOU) process, with a specific focus on the Ontario Airport, due to its proximity to several front line communities suffering from freight-related air quality impacts in the South Coast region.

Sierra Club is the nation's oldest and largest grassroots environmental organization with nearly 800,000 members nationwide and 170,000 in California. Sierra Club is dedicated to the protection of public health and the environment and has long been a leading voice for reducing our air pollution and greenhouse gas emissions by reducing the use of fossil fuels. 2-1

While Sierra Club is pleased that the airports and South Coast Air Quality Management District (SCAQMD) are working to reduce airport emissions, much work remains. Sierra Club offers the following comments on the MOU process.

I. NOx Emissions Reductions

A. Overall NOx reductions are fairly modest and could be more significant

The FBMSM for Commercial Airports is expected to achieve 0.52 and 0.38 tons per day of NOx emission reductions in 2023 and 2031, respectively, based on the airports' implementation of AQIP/AQIM measures in the MOUs. Even SCAQMD admits that "these emission reductions are modest" but claims that "there are other AQIP/AQIM measures that 2-2

airports are implementing that will result in emission reductions that may not be easily quantifiable or SIP creditable."[1] Sierra Club would like to see more ambitious targets embodied at the Ontario Airport in particular, similar to LAX. 2-2

B. Reported NOx reductions figures are inconsistent for Ontario Airport

The NOx reduction figures for the Ontario airport are not consistent. By way of a few examples:

1. SCAQMD public presentation notes that for Ontario, they expect to achieve 7.83 NOX tpy 2023 reductions, 9.93 tpy reductions in 2031.[2]
2. Preliminary Draft Staff Report at Table 4.1 notes that the GSE Policy alone at Ontario achieves 7.83 NOX tpy reduction by 2023 and 9.93 tpy reduction by 2031.[3]
3. In the Preliminary Draft Staff Report at Table 2.8, it also states that the GSE policy alone at Ontario would achieve 22.66 NOX tpy 2023 reductions, and 46.03 tpy reductions in 2031.[4]
4. In the Draft Ontario AQIP, Table 13 also notes the approximate 22.66 NOX tpy 2023 reduction and 46.03 Tpy reduction by 2031.[5]

2-3

It is thus unclear what NOx reductions the Ontario airport MOU plans to achieve. Is it 7.83 tpy or 22.66 tpy by 2023, and 9.93 tpy or 46.03 tpy by 2031? This is a major discrepancy and Sierra Club hopes to clarify the planned scope of emissions reductions. If the lower figure is

[1] Preliminary Draft Staff Report, Facility-Based Mobile Source Measure for Commercial Airports, September 2019, at p. 7 , accessed: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/facility-based-mobile-source-measures/preliminary-draft-staff-report.pdf?sfvrsn=6 [hereinafter "Preliminary Draft Staff Report"].
[2] Presentation, Public Consultation Meeting, Oct 10, 2019, at p. 21, accessed: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/facility-based-mobile-source-measures/presentation.pdf?sfvrsn=11.
[3] Preliminary Draft Staff Report, Table 4.1 List of SIP Creditable AQIP/AQIM Measures and Estimated Emission Reduction Benefits, at p. 41.
[4] Preliminary Draft Staff Report, Table 2.8 Summary of AQIP Measures and Initiatives for Ontario Airport, at p. 27.
[5] Draft Air Quality Improvement Plan, Ontario International Airport, September 17, 2019, at p. 20, accessed: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/facility-based-mobile-source-measures/draft-aqip-ont.pdf?sfvrsn=7 [hereinafter "Draft Ontario AQIP"].

correct, it seems that the Ontario documents would all need to be recalculated, in addition to the overall planned scope of reductions in the south coast area. If the difference is just in what is creditable under the SIP, that should also be stated. 2-3

II. Ground Support Equipment Replacements Should be Clarified as Permanent

The Ground Support Equipment (GSE) provisions in the AQIP for Ontario Airport indicate that GSE equipment will be replaced.[6] However, the language about how such equipment will be retired is vague and lacks clarity. The Los Angeles World Airports (LAWA)'s Alternative-Fuel Vehicle Incentive Program, on the other hand, has explicit language discussing equipment scrappage and verifying that equipment is replaced.

> The emission reductions associated with these vehicle replacements are expected to be permanent as these new trucks continue their operation at LAWA as specified under the MOU. LAWA commits to submit annual reports to South Coast AQMD with specific operational activity data for these funded trucks. LAWA is also responsible for providing documentation on how the retired vehicles are scrapped or relocated outside of California. The annual reports will thus ensure the permanency of the emission reductions.[7]

2-4

Sierra Club suggests that Ontario use the LAWA's Alternative-Fuel Vehicle Incentive program language, noted above, in its MOU and accompanying documents to ensure permanent emissions reductions.

Moreover, there are generally weak goals for GSE for most of the airport MOUs, with the exception of LAX. This stands in stark contrast to other airports, like SFO, that pledge electric

[6] Draft Ontario AQIP at p. 7-8.
[7] Preliminary Draft Staff Report at p. 47.

GSE vehicles by 2021.[8] The current goals are based on fleetwide averages, which will likely result in near zero technologies and not zero emissions equipment. Sierra Club suggests that the Ontario airport and others adopt and implement a GSE fleet emission reduction program and similarly ensure that GSE vehicles are electric by 2021 like SFO. 2-4

III. Responsibility for Shortfalls in MOU Emissions Reductions Lacks Clear Public Process Requirement

The MOU language notes that in the event of any shortfall in emissions reductions that the SCAQMD will make up this shortfall with other measures:

> Responsibility for Shortfall. The South Coast AQMD shall be solely responsible to make up any emissions reduction shortfalls that may occur in the event that the actual voluntary airport AQIP emissions reduction benefits do not achieve the projected emissions reduction benefits resulting from implementation of the voluntary airport AQIP measures specified in Attachment A. South Coast AQMD will also commit to adopt and submit substitute measures to USEPA to remedy any potential emission reduction shortfall associated with implementation of the AQIP measures identified in Attachment A. The Airport shall have no obligation(s) and/or requirement(s) to implement any substitute measures to remedy any potential emission reduction shortfall associated with implementation of the AQIP measures identified in Attachment A, unless otherwise mutually agreed on by both parties.[9]

2-5

In essence there is no ramification for the Ontario Airport failing to meet its commitments, and the SCAQMD can just decide to substitute other measures in another geographical area or industry for any potential shortfall. While the Preliminary Staff Report

[8] *See* e.g., SFO Transit First Strategic Initiatives, accessed: https://www.flysfo.com/environment/transit-first.

[9] Draft Memorandum of Understanding between the South Coast Air Quality Management District and Ontario International Airport Regarding Ontario International Airport's Air Quality Improvement Plan, September 20, 2019, Section 3 at p. 6, accessed: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/facility-based-mobile-source-measures/draft-mou-ont.pdf?sfvrsn=7 [hereinafter "Draft MOU"].

indicates that in the case of a shortfall, the SCAQMD would adopt a public process to discuss potential measures that the agency would undertake, this language is missing from the MOU itself:

> In the event that the actual emission reductions from the implementation of the AQIP/AQIM measures specified in the MOUs are less than the projected emission reduction benefits, South Coast AQMD will be responsible for achieving the reduction shortfall. *In such instances, South Coast AQMD also commits to adopt and submit substitute measures to EPA working with the airports and other stakeholders. A public process will be initiated to facilitate the consideration of potential new or enhanced programs, or better efforts to quantify existing programs, to help South Coast AQMD meet any shortfall.* (emphasis added.)[10]

2-5

Sierra Club recommends adding the above language to the draft MOU itself, either in Section 3 on page 6-7 discussing responsibility for shortfalls, or in Section 2 on the MOU public process on page 4. A public process would be important in that scenario to ensure that emissions reductions would occur in a similar location, either at the airport or in another sector in order to be assured that local residents see a benefit to this MOU program.

IV. Third Party Enforcement Provisions in MOUs are Lacking

Section C1(e) of the Draft MOU notes that "[t]he Parties specifically disavow any desire or intention to create any third-party beneficiary under this MOU, and specifically declare that no person or entity shall have any remedy or right of enforcement."[11] Yet, at the same time, the Draft MOU also highlights:

2-6

> 4. Responsibility to Community. The MOU supports and is made in recognition of the importance of ONT to the economic health and well-being of the communities surrounding ONT and the importance of balancing the needs of the City of Ontario, County of San Bernardino and other surrounding

[10] Preliminary Draft Staff Report, at p. 6.
[11] Draft MOU at p.4, Section C(1)e.

communities for adequate commercial air transportation facilities with environmentally responsible air transportation operations at ONT."[12]

Sierra Club expresses its disappointment that an agreement intended to protect the well-being of the community is not enforceable by that same community and therefore recommends striking this provision from the MOU. 2-6

Sierra Club thanks you for consideration of its comments and is available to answer any questions.

Sincerely,

/s/ Jessica Yarnall Loarie
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/s/Carlo De La Cruz
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cc: Sang-Mi Lee, Program Supervisor, slee@aqmd.gov

[12] Draft MOU at p. 2.

Responses to Comment Letter from the Sierra Club (Comment Letter 2)

Response to Comment 2-1:

Staff appreciates the comment letter received from the Sierra Club and its participation at public meetings related to the FBMSM for Commercial Airports.

Response to Comment 2-2:

The AQIPs/AQIM represent the airports' best efforts to develop measures for reducing non-aircraft mobile source emissions and the measures that are eligible for SIP credit will be implemented through the voluntary MOUs with South Coast AQMD. During the MOU development process, staff repeatedly requested that airports consider the most stringent performance targets that were technically feasible and cost-effective.

Although the overall projected NOx reductions from the MOUs are modest (i.e., 0.52 tpd in 2023 and 0.37 tpd in 2031), they represent about 53% and 66% reductions from the GSE category, which are significant. The AQIPs/AQIM include other measures that the airports are implementing that will result in emission reductions but those measures are not included in the MOUs because they are not easily quantifiable or do not meet U.S. EPA's stringent requirements for SIP credit. Thus, the implementation of the AQIPs/AQIM is expected to yield additional reductions beyond 0.52 and 0.37 tons per day in 2023 and 2031, respectively, and we encourage the airports to continue to evaluate their programs and seek additional feasible and cost-effective emission reductions.

Response to Comment 2-3:

The presentations made by the airports, draft AQIPs/AQIM, and Chapter 2 of the staff report all reference emission reductions that were estimated by the airports. The apparent discrepancy arises when comparing the estimated emission reductions by the airport to the corresponding SIP credits calculated by South Coast AQMD in Chapter 4 of the staff report. It should be noted that the projected emission reductions in Chapter 4 account for the portion of the reductions that are considered SIP creditable based on the 2016 AQMP emissions inventory currency. To further clarify, 22.66 tpy is based on calculations performed by Ontario Airport, while 7.83 tpy is calculated by South Coast AQMD as SIP credit (based on SIP inventory) and is included in our enforceable commitment. Please refer to Appendix B of the staff report for an explanation of the SIP credit calculations for all MOU measures.

Response to Comment 2-4:

The revised MOU Schedule for GSE includes additional reporting requirements to document the sale or retirement of equipment. Additionally, any relocation of pre-Tier 4 diesel and pre-2010 gasoline/LPG GSE to another airport within the South Coast Air Basin is required to be reported including the name of the airport, date of relocation, and estimated projected usage hours. The performance target for the GSE measure represents the existing mix of GSE fleet at the airport

and represents what the airport deems feasible to achieve by 2023 and 2031. Staff will review the annual reports and emissions inventory submitted by the airport to track progress in implementation of this measure, including the reported information on the replaced equipment, and make all the information publicly available. South Coast AQMD will continue to encourage the airports to improve their programs by seeking additional feasible and cost-effective strategies.

Response to Comment 2-5:

Although the performance targets in the MOU measures and the corresponding emissions reductions associated with implementation of these measures are expected to be achieved, South Coast is fully committed to address any potential emission reduction shortfall through a public process, and develop substitute measures as required by U.S. EPA. We encourage Sierra Club to continue to participate during development of any potential future substitute measures.

Response to Comment 2-6:

While the MOU is not enforceable by the community, South Coast AQMD's enforceable commitment to achieve the projected emission reductions will be incorporated into the SIP and thus that commitment is enforceable by the community.

Appendix A: Draft Memoranda of Understanding

Los Angeles International Airport
Burbank Airport
John Wayne Airport
Long Beach Airport
Ontario Airport

MEMORANDUM OF
UNDERSTANDING BETWEEN
THE SOUTH COAST AIR QUALITY MANAGEMENT
DISTRICT AND
THE CITY OF LOS ANGELES DEPARTMENT OF AIRPORTS

This Memorandum of Understanding (MOU) is entered into this day of 2019, by and between the City of Los Angeles Department of Airports (Los Angeles World Airports or LAWA) acting by and through its Board of Airport Commissioners, and the South Coast Air Quality Management District (South Coast AQMD), acting by and through its Governing Board. LAWA and South Coast AQMD shall be referred to collectively as Parties (each a Party) to this MOU.

I. RECITALS

A. RECITALS BY SOUTH COAST AQMD.

1. Air Regulatory Agencies. Air pollution remains a significant public health concern in many parts of California, and specifically in the South Coast Air Basin (Basin). The South Coast AQMD, California Air Resources Board (CARB), and the United States Environmental Protection Agency (USEPA) are the regional, state, and federal regulatory agencies, respectively, with jurisdiction over air quality in the Basin. The Basin consists of the County of Orange, and the non-desert portions of the Counties of Los Angeles, Riverside, and San Bernardino.

2. South Coast AQMD. The South Coast AQMD is the regional air pollution control agency primarily responsible for reducing air pollution in the Basin. Los Angeles International Airport (LAX or Airport) is located within the Basin.

3. Need for Emission Reductions. The USEPA designated the Basin as an extreme non-attainment area for the 1997 and 2008 8-hour ozone national ambient air quality standards (NAAQS) with statutory deadlines to reach attainment by 2023 and 2031, respectively. Despite significant air quality improvements achieved over the last several decades, to meet the ozone NAAQS, emissions of oxides of nitrogen (NOx) need to be reduced by 45% in 2023 and 55% in 2031 as outlined in the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP includes Control Measure MOB-04 – Emissions Reductions at Commercial Airports, with the goal of achieving emission reductions from commercial airports. On March 3, 2017, the South Coast AQMD Governing Board adopted the 2016 Air AQMP. On March 23, 2017, CARB approved the 2016 AQMP and the 2016 State Strategy for the State Implementation Plan (SIP) for Federal Ozone and PM2.5 Standards. ~~, and submitted them to~~ On October 1, 2019, USEPA ~~for~~ approv~~al~~ed the 2016 AQMP and SIP.

4. Emissions from Sources at Commercial Airports. Emissions associated with operations at commercial airports contribute to adverse air quality in the Basin; these emissions are primarily due to airport-related mobile source activities. These sources include aircraft, cargo trucks, ground support equipment (GSE), off-road vehicles, shuttle buses, and passenger vehicles. NOx emission reductions from commercial airports can assist with the effort to attain the ozone standards in 2023 and 2031.

B. RECITALS BY LAWA.

1. LAWA. LAWA is a proprietary department of the City of Los Angeles. The City of Los Angeles is a Charter City and is subject to city, county, state, and federal law. The City of Los Angeles is the proprietor and certificated operator of LAX.

2. Authority. The City of Los Angeles acting by and through its proprietary department LAWA has the authority to enter into this MOU pursuant to the City of Los Angeles Charter. Obligations hereunder, are, however, limited to the extent in conflict with any Federal Aviation Authority (FAA) rules or regulations.

3. LAWA's History of Leadership in Successfully Implementing Air Quality Improvement Programs. LAWA has a long history of leadership in successfully implementing air quality improvement programs at LAX and is committed to improving air quality in and around its airports to the extent consistent with operating an airport.

4. LAX Air Quality Improvement Measures (LAX AQIM). LAWA has identified its existing non-aircraft related air quality improvement measures and proposed new initiatives for reducing NOx emissions from non-aircraft related mobile sources at the airport and included both into the LAX AQIM, which supports the South Coast AQMD's efforts to meet its obligations under the 2016 ~~AQMD~~AQMP. LAWA's LAX AQIM represents its best efforts to develop strategies for reducing NOx emissions from non-aircraft mobile source operations at LAX based on its existing authority over airport emission sources and includes specific voluntarily-created airport measures and new initiatives for certain non-aircraft emission sources operating at LAX.

5. Emissions Inventory. The LAX AQIM includes the 2017 base year emissions inventory and 2023 and 2031 business as usual emissions forecasts as well as the 2023 and 2031 emissions forecasts that include the estimated emissions benefits from LAX AQIM measures and new initiatives with quantifiable emission reductions. The LAX AQIM provides an emissions inventory only for non-aircraft airport sources (i.e., ground support equipment, on-road and off-road airport fleet vehicles, trucks, shuttle buses, and passenger transportation) for which the LAX AQIM includes specific measures and initiatives and LAWA has

provided the LAX AQIM and related LAX AQIM Emissions Inventory and Forecasts with supporting calculations to the South Coast AQMD.

C. JOINT RECITALS.

1. Purpose of MOU.

a. The purpose of this MOU is to set forth how the Parties, consistent with their respective legal authorities, intend to quantify the anticipated emission reduction benefits in the Basin through implementation of the three (3) voluntary LAX measures from LAWA's LAX AQIM set forth in Attachment A (hereinafter the "MOU Measures"). This MOU does not create SIP creditable reductions; rather, it identifies specific voluntary measures and provides the means for the South Coast AQMD to quantify the emission reductions from the MOU Measures to obtain SIP credits.

b. The MOU is not intended to limit Airport growth. The central objective of the LAX AQIM and this MOU is to reduce NOx emissions and achieve corresponding reductions of associated pollutants from non-aircraft airport mobile sources.

c. The MOU Measures set forth in Attachment A, ~~Schedules~~ MOU Measures 1 through 3, set forth metrics for quantification of estimated emission benefits associated with implementation of those MOU Measures.

d. The emission reduction benefits from the MOU Measures may be used by South Coast AQMD to obtain SIP credit to the extent the emission reduction benefits quantified by South Coast AQMD for these measures satisfy USEPA's integrity elements (i.e., the emission reductions are quantifiable, surplus, permanent, and enforceable). South Coast AQMD may seek SIP credit for the quantified emission reductions through a separate SIP submittal.

e. The Parties agree that the South Coast AQMD, and not LAWA, will be responsible for any difference between the estimated prospective emission reductions and actual emissions reductions achieved from the MOU Measures.

f. The Parties specifically disavow any desire or intention to create any third-party beneficiary under this MOU, and specifically declare that no person or entity shall have any remedy or right of enforcement.

g. The Parties will continue to work together in developing inventories of airport emission sources to support the development of future AQMPs outside of the MOU process.

h. LAWA and South Coast AQMD have a long history of successfully working together on air quality emission reduction projects; and LAWA and the South Coast AQMD desire to continue this successful collaboration through this voluntary MOU.

2. MOU Public Process.

a. Following the adoption of the 2016 AQMP, South Coast AQMD staff held a series of public working group meetings to solicit comments on implementing Control Measure MOB-04 for commercial airports. Based on input received during the public process, South Coast AQMD staff developed a recommendation for the South Coast AQMD Governing Board for the development of an MOU with the commercial airports. In the event that the MOU approach with the airports was not successful, staff also recommended consideration of a regulatory approach for reducing emissions from commercial airports.

b. On May 4, 2018, the South Coast AQMD Governing Board directed staff to pursue the approach for developing facility-based emission reduction strategies for commercial airports through voluntary measures only.

c. South Coast AQMD staff established an MOU Working Group, consisting of representatives from the South Coast AQMD, commercial airports (LAX, John Wayne Airport, Ontario International Airport, Hollywood Burbank Airport, and Long Beach Airport), CARB, USEPA, environmental organizations, labor, freight industry, airlines, other stakeholders, and the public to solicit comments on the MOU development, and to monitor the implementation of this MOU and provide reports to USEPA. In addition, South Coast AQMD may utilize other well-established means of communication, including the South Coast AQMD website, Subscribers lists, and Governing Board and Committee meetings, for disseminating information concerning the status of MOU implementation.

d. The MOU has been developed through the public process, discussed above, for consideration by the South Coast AQMD Governing Board and the LAWA Board of Airport Commissioners.

3. MOU Applicability. The MOU (1) does not apply to all measures and new initiatives identified in the LAX AQIM, (2) addresses only the MOU Measures identified in Attachment A, and (3) does not supersede conflicting rules that are established by the USEPA or CARB, or legal obligations that LAWA is subject to such as U.S. Department of Transportation (USDOT) or FAA regulations; federal statutes, including the Anti-Head Tax Act (AHTA), the Federal Aviation Act, and the Airline

Deregulation Act; international treaties; or the doctrines of federal preemption, the dormant Commerce Clause, and the Supremacy Clause.

a. Excluded Sources.

Nothing in this MOU is intended or shall be interpreted to apply to: (1) any source that is not specifically identified in the MOU Measures, or (2) the operation of any source that is not specifically identified in the MOU Measures

II. NOW THEREFORE, in consideration of the mutual interests and benefits of all parties to be derived from emissions reductions of NOx, and corresponding anticipated reductions to other pollutants, including VOC and PM, resulting from the implementation of the MOU Measures, the Parties agree as follows:

A. AGREEMENTS.

1. The Parties agree the MOU does not: (i) establish an emissions cap or any other facility-wide limit for NOx, or any other pollutant; (ii) constitute any new regulatory authority imposed on LAWA, its operations, or its tenants; (iii) obligate LAWA to provide a comprehensive, facility-wide inventory of NOx emissions; or (iv) limit LAWA's ability to seek incentive or grant funding through federal, State and local programs, including but not limited to the FAA Voluntary Aviation Low Emissions (VALE) program and other similar programs, which require emissions reductions achieved through such programs to be voluntary in nature and exceed existing obligations to achieve emissions reductions.

2. The Parties agree to coordinate to identify general conformity budgets in the next AQMP for LAWA's general conformity purposes.

B. LAWA'S RESPONSIBILITIES.

LAWA agrees to take the following actions:

1. Implementation of MOU Measures. LAWA voluntarily agrees to implement the MOU Measures.

2. Monitoring and Reporting. LAWA will monitor the implementation of the MOU Measures and provide data and annual emissions inventory reports to South Coast AQMD as specified in Attachment A, ~~Schedules~~ MOU Measures 1 – 3.

C. SOUTH COAST AQMD'S RESPONSIBILITIES.

South Coast AQMD commits to take the following actions:

1. Technical Analysis for SIP Credit from MOU Measures emission

reductions. The South Coast AQMD will provide the necessary documentation and technical analysis with respect to the calculation of estimated emission reductions benefits attributable to the MOU Measures. This would include, but not be limited to, an analysis of the AQMP/SIP baseline for affected airport sources, emission reductions achieved through the MOU Measures, and an estimation of emissions reductions benefits and corresponding SIP credits. Factors to be considered for purposes of calculating the emission reductions benefits attributable to the MOU Measures shall include, but not be limited to: growth forecasts from LAWA, implementation schedules for the MOU Measures, the availability of funding for relevant incentives programs, and the technical and economic feasibility of specific MOU Measures

2. Federal Enforceability. To the extent necessary to obtain SIP approval, the South Coast AQMD will provide its own federally enforceable commitments to USEPA in a SIP update document that is separate from this MOU after approval by the South Coast AQMD and CARB Boards. South Coast AQMD will monitor, assess, and report the emission reductions benefits from the voluntary MOU Measures as identified in Attachment A to the USEPA.

3. Responsibility for Shortfall. LAWA's emissions estimates will be reliant on performance-based targets and LAWA will not provide emissions reduction guarantees. In the event of any shortfall in estimated emission reductions from the MOU Measures, the Parties agree that the South Coast AQMD shall be solely responsible to make up the shortfall, and LAWA shall not be responsible for making up the shortfall. South Coast AQMD will commit to adopt and submit substitute measures to USEPA to remedy any potential emission reduction shortfall associated with implementation of the MOU Measures. The Airport shall have no obligation(s) and/or requirement(s) to implement any substitute measures to remedy any potential emission reduction shortfall associated with implementation of the MOU Measures, unless otherwise mutually agreed on by both parties. Notwithstanding the above, LAWA and South Coast AQMD agree that, in the event that the actual emission reductions associated with implementation of MOU Measures are less than the estimated emissions reduction benefits projected for implementation of these measures, LAWA and South Coast AQMD will work together to consider potential new or enhanced programs, or better efforts to quantify existing programs, to help South Coast AQMD address any shortfalls.

4. Funding. The South Coast AQMD, at its Governing Board's discretion, will support grant funding efforts with potential funding sources that may provide funding for the voluntary airport AQIM measures.

5. Monitoring. The South Coast AQMD will monitor and assess the implementation of the MOU Measures~~-~~ based on information provided by LAWA as outlined in Attachment A, ~~Schedules~~ MOU Measures 1 through 3.

6. Information Sharing. The South Coast AQMD will provide the means for ensuring that emission reduction data and other pertinent information related to the implementation of the MOU Measures are accessible to the public and the USEPA.

D. MOU MEASURES (ATTACHMENT "A").

The MOU Measures for which the South Coast AQMD may quantify emission reductions and seek SIP credit through a separate SIP submittal are identified in Attachment A and are incorporated as part of this MOU:

- MOU MEASURE NO. 1 – GROUND SUPPORT EQUIPMENT EMISSIONS REDUCTION POLICY
- MOU MEASURE NO. 2 – LAX ALTERNATIVE FUEL VEHICLE INCENTIVE PROGRAM
- MOU MEASURE NO. 3 – ZERO-EMISSION BUS PROGRAM

Each MOU Measure focuses on the specific MOU Measure and time frame aligned with the AQMP and SIP emission reduction target dates (i.e., 2023, 2031), and includes technical details pertinent to the equipment category such as:

- Metrics or performance targets
- Schedule for program implementation
- Annual reporting by LAWA to South Coast AQMD

E. TERM OF MOU. The term of this MOU shall be effective as of the day and year indicated on the first page of this MOU ("Effective Date") through December 31, ~~2031~~2032, unless terminated earlier pursuant to subsection F, below. Prior to expiration of this MOU, all Parties agree to meet to evaluate the need for continuing participation. If all Parties agree that continuing participation is desirable, they shall negotiate for their respective Boards' approval, a written extension of the term of this MOU, and any applicable additional MOU ~~Schedules~~Measures.

F. WITHDRAWAL AND EARLY TERMINATION. Any Party may terminate this MOU for any reason by providing ninety (90) days written notice to the other Party. The Parties commit to work together to resolve any issues and negotiate an updated MOU at least thirty (30) days in advance of the specified date of termination of the MOU. If the Parties are unable to reach agreement, the MOU shall terminate on the date specified in the notification. Termination of this MOU shall not terminate any grants or funds entered into prior to the termination.

G. IMPLEMENTATION. The Parties agree to implement the provisions under their respective commitments specified in the MOU. LAWA and the South Coast AQMD agree that LAWA's implementation of the MOU Measures is not to be construed as a regulation, rule, or requirement of the South Coast AQMD. In the event that any party fails to meet its commitment(s) or anticipates an inability to meet its commitment(s), the Party shall provide notice to the other Party within sixty (60) days of such determination and seek to negotiate a mutually agreeable solution within ninety (90) days of the date of the Notice. The Parties shall continue to comply with all other commitments under this MOU during the negotiations. Nothing contained in this paragraph is intended to limit any rights or remedies that the Parties may have under law. The Parties shall attempt to resolve any controversy that may arise out of or relating to this MOU. If a controversy or claim should arise that cannot be resolved informally by the respective staffs, executive level representatives of the Parties will meet at least once in person and, in addition, at least once in person or by telephone to attempt to resolve the matter. The Representatives will make every effort to meet as soon as reasonably possible at a mutually agreed time and place.

H. NOTICES. All notices that are required under this MOU shall be provided in the manner set forth herein, unless specified otherwise. Notice to a Party shall be delivered to the attention of the person listed below, or to such other person or persons as may hereafter be designated by that party in writing. Notice shall be in writing sent by U.S. Certified Mail, Return Receipt Requested, or a nationally recognized overnight courier service. Notice shall be deemed to be received when delivered (written receipt of delivery).

South Coast AQMD:	South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765-4178 Attn: Assistant Deputy Executive Officer Planning, Rule Development & Area Sources
LAWA:	Los Angeles World Airports Attn: Tamara McCrossen-Orr 7301 World Way West, 7th Floor Los Angeles, CA 90045
With a copy to:	General Counsel Los Angeles City Attorney Airport Division 1 World Way Los Angeles, CA 90045

I. COSTS. Each Party shall be responsible for its respective costs associated with this MOU. No Party will submit a claim for compensation to any other Party, or otherwise seek reimbursement of costs from any other Party, for activities carried out pursuant to this MOU.

J. FUTURE AGREEMENTS. This MOU does not restrict any future agreements between the Parties with respect to the subject matter stated herein or any other subject matter.

K. JOINT WORK PRODUCT. This MOU shall not be construed against the Party preparing the same, shall be construed without regard to the identity of the person who drafted such and shall be construed as if all Parties had jointly prepared this MOU and it shall be deemed their joint work product.

L. ENTIRE UNDERSTANDING. This MOU, including all attachments, constitutes the entire understanding between the Parties and supersedes all other agreements, oral or written, with respect to the subject matter herein.

M. VENUE. Venue for resolution of any disputes under this MOU shall be Los Angeles County, California, USA.

N. ATTORNEYS' FEES. In the event any action is filed in connection with the enforcement or interpretation of this MOU, each Party shall bear its own attorneys' fees and costs.

O. AUTHORITY. Except as expressly stated herein, nothing in this MOU shall be construed as a waiver of any Party's discretionary authority or deemed to restrict authority granted to any Party under law in any way with respect to future legislative, administrative, or other actions.

P. COUNTERPARTS. This MOU may be executed in one or more counterparts, each of which shall be deemed to be an original.

Q. MODIFICATIONS. This MOU may be subsequently modified at any time but no modification shall be valid or binding unless made in writing and signed by authorized representatives of both Parties.

R. AUTHORIZED SIGNATURES. Each signatory of this MOU represents that s/he is authorized to execute on behalf of the Party for which s/he signs. Each Party represents that it has legal authority to enter into this MOU and to perform all obligations under this MOU.

S. NO ENFORCEMENT AGAINST THIRD PARTIES. The South Coast AQMD shall not seek to enforce the MOU Measures or any of the measures or initiatives in the LAX AQIM or any of its terms against LAWA's tenants, concessionaries, third party licensees, vendors, or other relevant operators doing business at LAWA facilities.

T. AMENDMENTS AND CONSULTATION. LAWA may update or modify its

LAX AQIM at any time at its discretion. However, amendments to the MOU Measures must be made by the mutual agreement of both Parties and in writing signed by the Parties.

U. RELATIONSHIP TO LAWS. LAWA will not implement any MOU Measures or measures in the LAX AQIM or any provision or provisions thereof that would violate Federal law, federal regulations, international treaty obligations, FAA policy, or FAA instructions, or compromise the safety of the traveling public.

IN WITNESS WHEREOF, the Parties have executed this MOU as of the day and year indicated on the first page of this MOU.

APPROVED AS TO FORM:
MICHAEL N. FEUER, City Attorney

Date: _____

By: _____
Deputy City Attorney

CITY OF LOS ANGELES

By: _____
Chief Executive Officer
Department of Airports

By: _____
Chief Financial Officer
Department of Airports

APPROVED AS TO FORM:

_____
Bayron T. Gilchrist

Date: _____

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By: _____
Dr. William Burke
Its: Chairman, South Coast Governing

Date: _____

ATTACHMENT A - LAX MOU Measures

MOU MEASURE NO. 1 – GROUND SUPPORT EQUIPMENT EMISSIONS REDUCTION POLICY

This MOU Measure No. 1 is based on LAWA's LAX AQIM measure, the Ground Support Emissions Reduction Policy for ground support equipment (GSE) at LAX and is attached to and a part of the MOU between LAWA and South Coast AQMD.

I. PROGRAM DESCRIPTION – Require that all ground support equipment operators at LAX achieve fleet average NOx + Hydrocarbon emission factors of 1.8 and 1.0 grams per brake horsepower-hour ~~in~~ by January 1, 2023 and January 1, 2031, respectively.

II. PROGRAM TIMEFRAME~~—~~ – Upon ~~Upon~~ execution through ~~2031~~2032.

III. LAWA OBLIGATIONS – LAWA shall:

A. Airport shall implement the measure by working with airport tenants to achieve the above performance targets. Airport shall have complete discretion as to mechanisms used to implement this measure.

B. Beginning in 2021, and every year thereafter through ~~2031~~2032, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:

1. List of ground support equipment operating at LAX subject to this GSE measure with the following information:

   a. Equipment ID
   b. Equipment type
   c. Fuel type
   d. Engine model year
   e. Power rating (hp or kW)
   f. Engine tier level (for diesel engines)
   g. ~~[~~Annual ~~A~~activity ~~D~~data for non-zero emission equipment that is sufficient to determine emission reductions at a reasonable level of accuracy (i.e., actual operating hours from hour meter readings/maintenance records, average operating hours representative of equipment type and airport, or average operating hours by equipment/fuel type from CARB's OFFROAD model, if applicable).~~to be determined]~~[1]

2. For non-zero emission ground support equipment subject to this GSE measure, information regarding the sale or retirement of equipment available through CARB's DOORS system and, for pre-Tier 4 diesel, pre-2010 gasoline, or pre-2010 LPG ground support equipment relocated from LAX to another airport within the South Coast Air Basin, identify: a) the airport to which equipment is relocated, b) date of relocation, and c) estimated projected usage hours.

[1] ~~[Activity Data to be determined]~~

~~2.~~3. An annual emission inventory for ground support equipment operating at LAX, following the methodology and calculations used to generate the 2017 baseline inventory report for the LAX AQIM.

~~V.~~IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD shall:

A. Verify emission reductions from the implementation of this measure by LAWA to determine actual emission reductions.

~~B.~~ Ensure that the data set forth in Section III.B related to this measure is accessible to the public and the USEPA.

B.

~~VI.~~V. JOINT OBLIGATIONS – The Airport and the South Coast AQMD shall:

A. Work to identify and demonstrate clean technologies for ground support equipment in collaboration with technology providers, airport tenants, CARB, USEPA, and stakeholders.

B. Collaborate to identify additional sources of funding to accelerate turnover of existing ground support equipment to cleaner equipment.

MOU MEASURE NO. 2 – LAX ALTERNATIVE FUEL VEHICLE INCENTIVE PROGRAM

This MOU Measure No. 2 is based on LAWA's LAX AQIM measure, the LAX Zero and Near-Zero Emission Heavy-Duty Vehicle Incentive Program and is attached to and a part of the MOU between LAWA and South Coast AQMD.

I. PROGRAM DESCRIPTION – Implement an incentive program that will distribute up to $500,000 dollars in funding to applicants based on the "incremental cost" differential of the zero or near-zero emission vehicles as compared to conventionally-fueled equivalents with a Gross Vehicle Weight Rating (GVWR) of 14,001 pounds or greater by December 31, 2021.

II. PROGRAM TIMEFRAME~~–~~ – Upon ~~Upon~~ execution through ~~2031~~2032.

III. LAWA OBLIGATIONS – LAWA shall:

A. Ensure full subscription of incentive program funding, to the maximum extent feasible, to encourage the deployment of zero or near-zero emission vehicles at LAX.

B. Beginning in 2021, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:

1. Zero or near-zero vehicle VIN number
2. Zero or near-zero vehicle model year
3. Zero or near-zero vehicle GVWR
4. Zero or near-zero vehicle engine model year
5. Zero or near-zero vehicle engine power rating
6. Zero or near-zero vehicle fuel type
7. Executive Order Number for the zero or near-zero vehicle engine
8. Zero or near-zero vehicle annual VMT (estimated)[2]
9. List of, and information on, replaced vehicle s (e.g., scrapped, moved out of state)
10. An emission inventory for the new near-zero or zero-emission vehicles acquired by LAX operators under the Alternative Fuel Vehicle Incentive Program, following the methodology and calculations used to generate the 2017 baseline inventory report for the LAX AQIM.

[2] Vehicle miles traveled (VMT) will be estimated from EMFAC2017 VMT for applicable vehicle size and technology categories in the South Coast Air Basin portion of Los Angeles County, unless CARB updates those activity levels at a future date within the Program.

IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD shall:

A. Verify emission reductions from the implementation of this measure by LAWA to determine actual emission reductions.

B. Ensure that the data set forth in Section III.B related to this measure is accessible to the public and the USEPA.

MOU MEASURE NO. 3 – ZERO-EMISSION BUS PROGRAM

This MOU Measure No. 3 is based on LAWA's LAX AQIM measure, the LAWA Zero- Emission Bus Program to convert LAWA-owned buses at LAX to zero-emission buses and is attached to and a part of the MOU between LAWA and South Coast AQMD.

I. PROGRAM DESCRIPTION – Replace 20% and 100% of LAWA-owned and operated buses with zero-emission buses by January 1, 2023 and January 1, 2031, respectively.

II. PROGRAM TIMEFRAME – Upon ~~– Upon~~ execution through ~~2031~~2032.

III. LAWA OBLIGATIONS – LAWA shall:

A. Replace LAWA-owned buses to meet the specified targets.

B. Beginning in 2021, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:

1. List of buses operating at LAWA with the following information:

a. Vehicle Identification Number

b. Vehicle model year

c. Vehicle GVWR

d. Bus engine model year

e. Power rating (hp or kW)

f. Odometer reading

g. Vehicle miles traveled[3]

2. An emission inventory for the LAWA-owned bus fleet, following the methodology and calculations used to generate the 2017 baseline inventory report for the LAX AQIM.

3. List of buses replaced during the reported year and information specified in III.B.1 above on replaced and replacement buses (i.e., replaced buses scrapped or moved out of state).

IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD shall:

A. Verify emission reductions from the implementation of this measure by LAWA to determine actual emission reductions.

B. Ensure that the data set forth in Section III.B related to this measure is accessible to the public and the USEPA.

[3] Vehicle miles traveled (VMT) will be based on actual annual mileage traveled by each bus in the LAWA-owned bus fleet.

MEMORANDUM OF UNDERSTANDING BETWEEN
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AND
BURBANK-GLENDALE-PASADENA AIRPORT AUTHORITY
REGARDING HOLLYWOOD BURBANK AIRPORT'S AIR QUALITY IMPROVEMENT PLAN

This Memorandum of Understanding ("MOU") is entered into by South Coast Air Quality Management District ("South Coast AQMD"), acting by and through its Governing Board, and the Burbank-Glendale-Pasadena Airport Authority ("Authority"), a joint powers agency, in its capacity as the proprietor and certificated operator of the Bob Hope Airport, commonly known as Hollywood Burbank ("BUR" or "Airport"). The Authority and South Coast AQMD shall be referred to collectively as Parties (each a Party) to this MOU.

I. RECITALS

A. RECITALS BY SOUTH COAST AQMD

1. Air Regulatory Agencies. Air pollution remains a significant public health concern in many parts of California, and specifically in the South Coast Air Basin (Basin). South Coast AQMD, California Air Resources Board (CARB), and the United States Environmental Protection Agency (USEPA) are the regional, state, and federal regulatory agencies, respectively, with jurisdiction over air quality in the Basin. South Coast AQMD and CARB have developed and approved the 2016 Air Quality Management Plan (AQMP) for the Basin for incorporation into the California State Implementation Plan (SIP). The 2016 AQMP has been submitted to USEPA and ~~is pending its approval~~was approved on October 1, 2019.
2. South Coast AQMD. South Coast AQMD is the regional air pollution control agency primarily responsible for reducing air pollution in the Basin, which consists of the County of Orange, and the non-desert portions of the Counties of Los Angeles, Riverside, and San Bernardino. BUR is located within the Basin.
3. Need for Emission Reductions. The Basin is classified as an extreme non-attainment area for the 1997 and 2008 8-hour ozone national ambient air quality standards (NAAQS) with statutory deadlines to reach attainment by 2023 and 2031, respectively. Despite significant air quality improvements achieved over the last several decades, to meet these standards, emissions of oxides of nitrogen (NOx) must be reduced by 45% in 2023 and 55% in 2031 as outlined in the 2016 AQMP, adopted by South Coast AQMD Governing Board in March 2017. The 2016 AQMP included Control Measure MOB-04 (Emission Reductions at Commercial Airports), with the goal of achieving emission reductions from commercial airports through implementation of voluntary airport strategies.

4. Emissions from Sources at Commercial Airports. Emissions associated with operations at commercial airports contribute to adverse air quality in the Basin, primarily due to airport-related mobile source activities. These sources include aircraft, cargo trucks, ground support equipment (GSE), off-road vehicles, shuttle buses, and passenger vehicles. Therefore, NOx emission reductions from commercial airports can assist with the effort to attain the ozone standards in 2023 and 2031.

B. RECITALS BY THE AUTHORITY

1. Airport. The Authority is the proprietor and certificated operator of BUR.

2. Airport Obligations. The Authority has entered into this MOU pursuant to its proprietary and governmental powers and authority under the State Aeronautics Act (California Public Utilities Code Sections 21001, et seq.).

3. Management and Operation. The Air Quality Improvement Plan (AQIP) and this MOU reflect the experience of the Authority in the management and operation of the Airport including extensive experience with the federal government, commercial aviation operators, general aviation operators and suppliers, the community, local public entities, and the residents of areas in the general vicinity of BUR.

4. Responsibility to Community. The MOU supports and is made in recognition of the importance of BUR to the economic health and well-being of the community surrounding BUR and the importance of balancing the needs of the community for adequate commercial air transportation facilities with environmentally responsible air transportation operations at BUR.

5. Statement of Intent. The Authority's consideration of the matters and issues referred to in this MOU is not intended as a statement that such matters and issues are the only ones considered by the Authority in connection with the formulation of the AQIP and this MOU. Rather this MOU reflects consideration by the Authority of all of its state and federal obligations and responsibilities as the proprietor of the Airport and addresses only those emission sources that the Airport believes it can reasonably affect.

6. Air Quality Improvement Plan (AQIP). The Authority has developed its own voluntary AQIP, with technical support provided by South Coast AQMD. The AQIP represents the Authority's best efforts to develop programs and strategies for reducing NOx emissions from airport mobile source operations based on its existing authority over airport emission sources. The AQIP includes specific initiatives and measures for certain non-aircraft emission sources operating at the Airport.

7. Emissions Inventory - The BUR AQIP includes the 2017 base year emissions inventory and 2023 and 2031 business as usual emissions forecasts as well as the 2023 and 2031 forecasts that include the projected estimates of emissions benefits from voluntary airport AQIP measures with quantifiable emission reductions. The AQIP provides an emissions inventory only for non-aircraft airport sources for which the AQIP includes specific voluntary airport measures and initiatives (i.e., ground support equipment, fuel/delivery trucks, on-road and off-road airport fleet vehicles, shuttle buses, and passenger transportation). The Authority has provided the AQIP with supporting calculations to South Coast AQMD.

C. JOINT RECITALS

1. Purpose of MOU

The purpose of this MOU is to set forth how the Parties, consistent with their respective legal authorities, intend to quantify the emission reduction benefits in the Basin through the implementation of the voluntary airport strategies developed by the Authority under the AQIP and MOU, and adopted by the Authority on [**INSERT DATE**]. Attachment A, "MOU Schedules," sets forth the specific voluntary airport AQIP measures that are subject to the MOU. This MOU does not create SIP creditable reductions; rather, it identifies specific voluntary airport AQIP measures and provides the means for South Coast AQMD t~~o t~~o quantify the emission reductions from these voluntary airport AQIP measures to obtain SIP credits. The MOU is not intended to limit Airport growth. A central objective of the AQIP and MOU is to generate NOx reductions, and corresponding reductions of associated pollutants from non-aircraft airport mobile sources.

a. MOU Schedules 1 and 2, specified in Attachment A, establish metrics for quantification of emission benefits associated with implementation of voluntary airport AQIP measures for each emission source category consistent with the 2023 and 2031 dates for attainment of the ozone standards.

b. The Parties agree the MOU does not: (1) Establish an emissions cap or any other facility-wide limit for NOx, or any other pollutant; (2) Obligate the Airport to provide a facility-wide inventory of NOx or VOC emissions; however, the Parties agree to continue to work together in developing inventories of airport emission sources to support the development of future AQMPs outside of the AQIP/MOU process; or (3) Limit the Authority's ability to seek incentive or grant funding through federal, State and local programs, including but not limited to the FAA Voluntary

Airport Low Emissions (VALE) program and other similar programs, which require emissions reductions achieved through such programs to be voluntary in nature and exceed existing obligations to achieve emissions reductions.

c. The emission reduction benefits from the voluntary airport AQIP measures in Attachment A may be used by South Coast AQMD to obtain SIP credit to the extent the emission reduction benefits quantified by South Coast AQMD for these measures satisfy USEPA's integrity elements (i.e., the emission reductions are quantifiable, surplus, permanent, and enforceable). South Coast AQMD may seek SIP credit for the quantified emission reductions through a separate SIP submittal.

d. The Parties agree that South Coast AQMD, and not the Authority, will rectify any shortfall in prospective emission reductions from the voluntary airport AQIP measures specified in Attachment A.

e. The Parties specifically disavow any desire or intention to create any third-party beneficiary under this MOU, and specifically declare that no person or entity shall have any remedy or right of enforcement.

2. MOU Public Process

a. Following the adoption of the 2016 AQMP, South Coast AQMD staff held a series of public working group meetings to solicit comments on implementing Control Measure MOB-04 for commercial airports. Based on input received during the public process, South Coast AQMD staff developed a recommendation for South Coast AQMD Governing Board for the development of an MOU with the commercial airports. In the event that the MOU approach with the airports was not successful, staff also recommended consideration of a regulatory approach for reducing emissions from commercial airports.

b. In May 2018, South Coast AQMD Governing Board approved staff's recommendation and directed staff to pursue an MOU approach with the commercial airports to implement 2016 AQMP Control Measure MOB-04.

c. South Coast AQMD staff has established an MOU Working Group (WG), consisting of representatives from South Coast AQMD, commercial airports (Los Angeles International Airport, John Wayne Airport, Ontario International Airport, Hollywood Burbank Airport, and Long Beach Airport), CARB, USEPA, environmental organizations, labor, freight industry, airlines, other stakeholders, and the public to solicit comments on the MOU development. South Coast AQMD staff will also monitor the

implementation of this MOU and provide reports to USEPA. In addition, South Coast AQMD may utilize other well-established means of communication, including South Coast AQMD website, Subscribers lists, and Governing Board and Committee meetings, for disseminating information concerning the status of MOU implementation.

d. The MOU is developed through the public process outlined above for consideration by South Coast AQMD Governing Board and the Authority Commission.

3. MOU Applicability. The MOU (1) addresses only those initiatives and measures included in the BUR AQIP identified in Attachment A, and (2) does not supersede rules that are established by USEPA or CARB, or legal, regulatory, or contractual obligations that the Airport is subject to such as U.S. Department of Transportation (USDOT) or Federal Aviation Administration (FAA) regulations; federal statutes, including the Anti-Head Tax Act (AHTA), the Federal Aviation Act, and the Airline Deregulation Act; international treaties; or the doctrines of federal preemption, the dormant Commerce Clause, and the Supremacy Clause.

a. Excluded Sources. Nothing in the AQIP or this MOU is intended or shall be interpreted to regulate or otherwise apply to (1) any source that is not specifically identified as a AQIP Source in Attachment A, including aircraft, inclusive of Auxiliary Power Units (APUs), aircraft engines or any other aircraft parts or systems, or (2) the operation of any source that is not specifically identified as a AQIP Source in Attachment A, namely aircraft, inclusive of APUs, aircraft engines, or any other aircraft parts or systems, either in flight or on the ground, including while taxiing or parked at an aircraft gate, remain-overnight (RON) position, maintenance facility, or any other airport location, or (3) any and all activities associated with General Aviation (GA) operations including aircraft, GA related GSE and vehicles and equipment. For purposes of the AQIP and this MOU, GA is defined as all civil aviation operations *except*: operations by 14 C.F.R Part 121 commercial carriers and regularly scheduled air services.

II. NOW, THEREFORE, in consideration of the mutual interests and benefits of all Parties to be derived from emissions reductions of NOx, and corresponding anticipated reductions to other pollutants, including VOC and PM, resulting from the implementation of the strategies identified in the voluntary AQIP, the Parties hereto agree as follows:

A. <u>AUTHORITY'S RESPONSIBILITIES</u>

The Authority agrees to take the following actions:

1. AQIP Implementation. Implement AQIP voluntary airport measures identified in Attachment A, Schedules 1 and 2.

2. Monitoring and Reporting. Monitor the implementation of voluntary airport AQIP measures and provide data and annual emissions inventory reports to South Coast AQMD as described in Attachment A, Schedules 1 and 2.

3. Incentives. Provide monetary or non-monetary incentives for non-aircraft airport mobile sources to the extent possible and as included in the AQIP. Nothing in this MOU requires the Airport to provide incentives.

4. Funding. Support grant funding efforts with potential funding sources that may provide funding for the voluntary airport AQIP measures, at the Authority's discretion.

B. SOUTH COAST AQMD'S RESPONSIBILITIES

South Coast AQMD agrees to take the following actions:

1. Technical Analyses for SIP Credit from AQIP emission reductions. South Coast AQMD will provide the necessary documentation and technical analysis with respect to the calculation of the emission reductions benefits attributable to the voluntary airport AQIP measures identified in Attachment A. This would include, but not be limited to, an analysis of the AQMP/SIP baseline for affected airport sources, emission reductions achieved through AQIP measures in Attachment A based on the AQIP inventories, and an estimation of emissions reductions benefits and corresponding SIP credits. Factors to be considered for purposes of calculating the emission reductions benefits attributable to the voluntary airport AQIP measures in Attachment A shall include, but not be limited to: growth forecasts from the airports, implementation schedules for voluntary airport AQIP measures, the availability of funding for relevant incentives programs, and the technical and economic feasibility of specific voluntary airport AQIP measures.

2. Federal Enforceability. To the extent necessary to obtain SIP approval, South Coast AQMD will provide federally enforceable commitments in a SIP update document that is separate from this MOU to USEPA after approval by the South Coast AQMD and the CARB Boards. South Coast AQMD will monitor, assess, and report emission reductions benefits from the voluntary airport AQIP measures identified in Attachment A to USEPA.

3. Responsibility for Shortfall. South Coast AQMD shall be solely responsible to make up any emissions reduction shortfalls that may occur in the event that the actual voluntary airport AQIP emissions reduction benefits do not achieve the estimated emissions reduction benefits projected for implementation of

the voluntary airport AQIP measures specified in Attachment A. South Coast AQMD will also commit to adopt and submit substitute measures to USEPA to remedy any potential emission reduction shortfall associated with implementation of the AQIP measures identified in Attachment A. The Authority shall have no obligation(s) and/or requirement(s) to implement any substitute measures to remedy any potential emission reduction shortfall associated with implementation of the AQIP measures identified in Attachment A, unless otherwise mutually agreed on by both Parties. Notwithstanding the above, the Authority and South Coast AQMD agree that, in the event that the actual emission reductions associated with implementation of voluntary AQIP measures in Attachment A are less than the emissions reduction benefits projected for implementation of these voluntary AQIP measures, the Authority and South Coast AQMD will work together to consider potential new or enhanced programs, or better efforts to quantify existing programs, to help South Coast AQMD address any shortfalls.

4. Funding. South Coast AQMD, at its Governing Board's discretion, will support grant funding efforts with potential funding sources that may provide funding for the voluntary airport AQIP measures.

5. Monitoring. South Coast AQMD will monitor and assess the implementation of SIP creditable AQIP measures based on information provided by the Authority as outlined in Schedules 1 and 2 in Attachment A.

6. Information Sharing. South Coast AQMD will provide the means for ensuring that emission reduction data and other pertinent information related to the implementation of SIP creditable AQIP measures are fully accessible to the public and USEPA.

C. MOU SCHEDULES

The voluntary airport AQIP measures for which South Coast AQMD may quantify emission reductions and seek SIP credit through a separate SIP submittal are identified in Schedules 1 and 2 in Attachment A and are incorporated as part of this MOU:

1. MOU SCHEDULE NO. 1 - GROUND SUPPORT EQUIPMENT
2. MOU SCHEDULE NO. 2 – ZERO-EMISSION SHUTTLE BUS PROGRAM

Each Schedule focuses on the voluntary airport AQIP measure and time frame aligned with the AQMP and SIP emission reduction target dates (i.e., 2023 and 2031), and includes technical details pertinent to the equipment category such as:

- Metrics or performance targets

- Schedule for program implementation
- Annual reporting by the Authority to South Coast AQMD

Variations in the nature of information and data needed for each of the source measures may be addressed with focused and adaptive revisions to the individual equipment category schedules and may be revised by mutual agreement of the Parties without modifying this MOU.

D. TERM OF MOU. This MOU shall be in full force and in effect when signed by all Parties following their respective required authorization processes. The initial term of this MOU shall expire on December 31, 203~~1~~2 unless terminated earlier pursuant to Section II.E, below. Prior to expiration of this MOU, all Parties agree to meet to evaluate the need for continuing participation. If all Parties agree that continuing participation is desirable, they shall negotiate for their respective Boards' approval, a written extension of the term of this MOU, and any applicable additional MOU Schedules.

E. WITHDRAWAL AND EARLY TERMINATION. If any Party to this MOU determines that it wishes to no longer be a party to this MOU, then the Party shall provide notice to the other Party at least ninety (90) days in advance of the specified date of termination of the MOU. The Parties commit to work together to resolve any issues and to negotiate an updated MOU at least thirty (30) days in advance of the specified date of termination of the MOU. If the Parties are unable to reach agreement, the MOU shall terminate on the date specified in the notification.

F. ENFORCEABILITY. The Parties agree to implement the provisions in the MOU. The Parties agree that implementation of the measures specified in Attachment A is not to be construed as a regulation or requirement of South Coast AQMD. In the event that any party fails to meet its commitment(s) or anticipates an inability to meet its commitment(s), the Party shall provide notice to the other Party within sixty (60) days of such determination and seek to negotiate a mutually agreeable solution within ninety (90) days of the date of the Notice. The Parties shall continue to comply with all other commitments under this MOU during the negotiations. Nothing contained in this paragraph is intended to limit any rights or remedies that the Parties may have under law. The Parties shall attempt in good faith to resolve any controversy that may arise out of or relating to this MOU. If a controversy or claim should arise that cannot be resolved informally by the respective staffs, executive level representatives of the Parties will meet at least once in person and, in addition, at least once in person or by telephone to attempt to resolve the matter. The Representatives will make every effort to meet as soon as reasonably possible at a mutually agreed time and place.

G. NOTICES. All notices that are required under this MOU shall be provided in the manner set forth herein, unless specified otherwise. Notice to a Party shall be delivered to the attention of the person listed below, or to such other person or persons as may hereafter be designated by that party in writing. Notice shall be in writing sent by U.S. Certified Mail, Return Receipt Requested, or a nationally recognized overnight courier service. Notice shall be deemed to be received when delivered (written receipt of delivery).

South Coast AQMD:	South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765-4178 Attn: Assistant Deputy Executive Officer - Planning, Rule Development & Area Sources
Authority:	~~[INSERT ADDRESS]~~ Hollywood Burbank Airport 2627 N. Hollywood Way Burbank, CA 91505
Attn:	~~[INSERT NAME~~John Hatanaka~~]~~

H. AVAILABLE FUNDING. Each Party shall be responsible for its respective costs associated with this MOU and acknowledges that the commitments contained herein by the other Party are subject to the availability of appropriated funds. No Party will submit a claim for compensation to ~~any~~the other Party, or otherwise seek reimbursement of costs from ~~any~~the other Party, for activities carried out pursuant to this MOU.

I. FUTURE AGREEMENTS. This MOU does not restrict any future agreements between the Parties with respect to the subject matter stated herein or any other subject matter.

J. JOINT WORK PRODUCT. This MOU shall not be construed against the Party preparing the same, shall be construed without regard to the identity of the person who drafted such and shall be construed as if all Parties had jointly prepared this MOU and it shall be deemed their joint work product.

K. RECITALS. Each of the Recitals is incorporated into this MOU.

L. ENTIRE UNDERSTANDING. This MOU, including all attachments, constitutes the entire understanding between the Parties and supersedes all other agreements, oral or written, with respect to the subject matter herein. This MOU shall not be amended except in writing, signed by the Parties which expressly refers to this ~~contract~~MOU.

M. VENUE. This MOU shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of

California. Venue for resolution of any disputes under this MOU shall be Los Angeles County, California, USA.

N. SEVERABILITY. If a court of competent jurisdiction holds any provision of this MOU to be illegal, unenforceable, or invalid in whole or in part for any reason, the validity and enforceability of the remaining provisions, or portions of those provisions, will not be affected.

O. ATTORNEYS' FEES. In the event any action is filed in connection with the enforcement or interpretation of this MOU, each Party shall bear its own attorneys' fees and costs.

P. AUTHORITY. Except as expressly stated herein, nothing in this MOU shall be construed as a waiver of any Party's discretionary authority or deemed to restrict authority granted to any Party under law in any way with respect to future legislative, administrative, or other actions.

Q. VOLUNTARY AQIP. The Parties agree that the Airport's AQIP measures in Attachment A are voluntary and are not to be construed as a regulation or requirement of South Coast AQMD.

R. MOU Modification. This MOU may be subsequently modified at any time but no modification shall be valid or binding unless made in writing and signed by authorized representatives of both Parties.

S. COUNTERPARTS. The signature pages of this MOU are being executed in counterparts by authorized signatories of the Parties following the approvals by their respective public agency governing boards. When both Parties have signed, all executed counterparts taken together shall constitute one and the same instrument.

T. AUTHORIZED SIGNATURES. Each signatory of this MOU represents that s/he is authorized to execute on behalf of the Party for which s/he signs. Each Party represents that it has legal authority to enter into this MOU and to perform all obligations under this MOU.

U. NO ENFORCEMENT AGAINST THIRD PARTIES. South Coast AQMD shall not seek to enforce the measures and new initiatives specified in Attachment A or any of the measures or new initiatives in the AQIP or any of its terms against BUR's tenants, concessionaries, third party licensees, vendor, or other relevant operators doing business at BUR facilities.

IN WITNESS WHEREOF, the Parties hereto have caused this Memorandum of Understanding to be executed by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By_____
Name: Dr. William Burke
Title: Chairman, South Coast Governing Board

Date:_____, 20___

Attest_____
Name:
Title:

APPROVED AS TO FORM:

Date:_____, 20___
BAYRON T. GILCHRIST,
General Counsel

By_____
Name:
Title:

~~**[INCLUDE AIRPORT SIGNATORIES]**~~**HOLLYWOOD BURBANK AIRPORT SIGNATORIES**

By_____
Name: John Hatanaka
Title: Senior Deputy Executive Director, Hollywood Burbank Airport

Date:_____, 20___

ATTACHMENT A

MOU SCHEDULE NO. 1 – GROUND SUPPORT EQUIPMENT

This MOU Schedule No. 1 is based on the Authority's AQIP measure for ground support equipment[1].

I. PROGRAM DESCRIPTION – Require that all ground support equipment associated with commercial operations achieve fleet average ~~hydrocarbon plus~~of NOx combined emission factors of 1.6692 and 0.7482 g/bhp-hr ~~in~~by January 1 of 2023 and 2031, respectively.

II. PROGRAM TIMEFRAME - Upon execution through 203~~1~~2.

III. AIRPORT OBLIGATIONS – The Authority agrees to:

A. Implement the measure by working with airport tenants to achieve the above performance targets by the specified dates through accelerated turnover to cleaner equipment. Airport shall have complete discretion as to mechanisms used to implement this measure. Such mechanisms may include leases, licenses, operational requirements, or other agreements.

B. Beginning in 2021, and every year thereafter through 203~~1~~2, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:

1. List of ground support equipment as provided by airlines operating at BUR with the following information:

   a. Equipment ID
   b. Equipment type
   c. Fuel type
   d. Engine model year
   e. Power rating (hp or kW)
   f. Engine tier level (for diesel engines)
   g. Annual activity data for non-zero emission equipment that is sufficient to determine emission reductions at a reasonable level of accuracy (i.e., actual operating hours from hour meter readings/maintenance records, average operating hours representative of equipment type and airport, or average operating hours by equipment/fuel type from CARB's OFFROAD model, if applicable)

2. For non-zero emission ground support equipment subject to this GSE measure, information regarding the sale or retirement of equipment available through CARB's DOORS system and, for pre-Tier 4 diesel, pre-2010 gasoline, or pre-2010 LPG ground support equipment relocated from BUR to another airport within the South Coast Air Basin, identify: a) the airport to which equipment is relocated, b) date of relocation,

and c) estimated projected usage hours.

~~2.~~

3. An annual emission inventory for all ground support equipment associated with commercial operations at BUR, including methodology and calculations.

[1] Ground Support Equipment or "GSE" is any vehicle or equipment used to support aircraft operations that is subject to, or included in compliance plans to meet, the requirements of the California Air Resources Board (CARB) In-Use Off-Road Diesel (ORD) Vehicle Regulation Program, CARB Off-Road Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation Program, or CARB Portable Equipment Registration Program and associated Portable Diesel Engine Airborne Toxic Control Measure. Furthermore, GSE as defined here only includes equipment that is not subject to compliance with SCAQMD Rule XX – RECLAIM, or included in a mobile source emission reduction credit program under SCAQMD Rule XVI.

IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD agrees to:

A. Verify emission reductions from the implementation of this AQIP measure in order to determine actual emission reductions.

B. Ensure that any emission reduction data related to this AQIP measure and other pertinent information are accessible to the public and USEPA.

MOU SCHEDULE NO. 2 –ZERO-EMISSION SHUTTLE BUS PROGRAM

This MOU Schedule No. 2 is based on the Authority's AQIP SIP creditable measure for zero-emission buses at BUR.

I. PROGRAM DESCRIPTION –Replace 50% and 100% of BUR-owned and operated or BUR airport contracted buses with electric buses by January 1 of 2023 and 203~~1~~1, respectively.

II. PROGRAM TIMEFRAME - Upon execution through 203~~1~~2.

III. AIRPORT OBLIGATIONS – The Authority agrees to:

A. Replace or require shuttle buses to meet the specified targets.

B. Beginning in 2021, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:

1. List of shuttle buses operating at BUR with the following information:

a. Vehicle Identification Number
b. Vehicle model year
c. Gross Vehicle Weight Rating
d. Fuel type
e. Odometer reading
f. Annual vehicle miles travelled

2. An emission inventory for shuttle buses, including methodology and calculations.

IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD agrees to:

A. Verify emission reductions from the implementation of this SIP creditable AQIP measure by the Authority in order to determine actual emission reductions.

B. Ensure that any emission reduction data related to this AQIP measure and other pertinent information are accessible to the public and USEPA.

MEMORANDUM OF UNDERSTANDING BETWEEN
THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AND
JOHN WAYNE AIRPORT, ORANGE COUNTY
REGARDING JOHN WAYNE AIRPORT'S AIR QUALITY IMPROVEMENT PLAN

This Memorandum of Understanding ("MOU") is entered into by the South Coast Air Quality Management District ("South Coast AQMD"), acting by and through its Governing Board, and John Wayne Airport, Orange County (SNA) ("JWA" or "Airport"), acting by and through the County of Orange, California ("County") in its capacity as the proprietor and certificated operator of JWA. The Airport and South Coast AQMD shall be referred to collectively as Parties (each a "Party") to this MOU.

I. RECITALS

A. RECITALS BY SOUTH COAST AQMD

1. Air Regulatory Agencies. Air pollution remains a significant public health concern in many parts of California, and specifically in the South Coast Air Basin (Basin). The South Coast AQMD, California Air Resources Board (CARB), and the United States Environmental Protection Agency (USEPA) are the regional, state, and federal regulatory agencies, respectively, with jurisdiction over air quality in the Basin. South Coast AQMD and CARB have developed and approved the 2016 Air Quality Management Plan (AQMP) for the Basin for incorporation into the California State Implementation Plan (SIP). The USEPA approved the 2016 AQMP on October 1, 2019.~~The 2016 AQMP has been submitted to USEPA and is pending its approval.~~.

2. South Coast AQMD. The South Coast AQMD is the regional air pollution control agency primarily responsible for reducing air pollution in the Basin, which consists of the County of Orange, and the non-desert portions of the Counties of Los Angeles, Riverside, and San Bernardino. JWA is located within the Basin.

3. Need for Emission Reductions. The Basin is classified as an extreme non-attainment area for the 1997 and 2008 8-hour ozone national ambient air quality standards (NAAQS) with statutory deadlines to reach attainment by 2023 and 2031, respectively. Despite significant air quality improvements achieved over the last several decades, to meet these standards, emissions of oxides of nitrogen (NOx) must be reduced by 45% in 2023 and 55% in 2031 as outlined in the 2016 AQMP, adopted by the South Coast AQMD Governing Board in March 2017. The 2016 AQMP included Control Measure MOB-04 (Emission Reductions at Commercial Airports), with the goal of achieving emission reductions from commercial airports through implementation of voluntary airport strategies.

4. Emissions from Sources at Commercial Airports. Emissions associated with operations at commercial airports contribute to adverse air quality in the Basin, primarily due to airport-related mobile source activities. These sources include aircraft, cargo trucks, ground support equipment (GSE), off-road vehicles, shuttle buses, and passenger vehicles. Therefore, NOx emission reductions from commercial airports can assist with the effort to attain the ozone standards in 2023 and 2031.

B. RECITALS BY JWA

1. Airport. The County of Orange is the proprietor and certificated operator of JWA.

2. Airport Obligations. JWA enters into this MOU pursuant to its proprietary and governmental powers and authority under the State Aeronautics Act (California Public Utilities Code Sections 21001, et seq.).

3. Management and Operation. The Air Quality Improvement Plan (AQIP) and this MOU reflect the experience of JWA in the management and operation of the Airport including extensive experience with the federal government, commercial aviation operators, general aviation operators and suppliers, the community, local public entities, and the residents of areas in the general vicinity of JWA.

4. Responsibility to Community. The MOU supports and is made in recognition of the importance of JWA to the economic health and well-being of the community surrounding JWA and the importance of balancing the needs of the Orange County community for adequate commercial air transportation facilities with environmentally responsible air transportation operations at JWA.

5. Statement of Intent. JWA's consideration of the matters and issues referred to in this MOU is not intended as a statement that such matters and issues are the only ones considered by the Airport in connection with the formulation of the AQIP and this MOU. Rather this MOU reflects consideration by JWA of all of its state and federal obligations and responsibilities as the proprietor of the Airport and addresses only those emission sources that the Airport believes it can reasonably affect.

6. Air Quality Improvement Plan (AQIP). JWA has developed its own voluntary AQIP, with technical support provided by the South Coast AQMD. The AQIP represents the Airport's best efforts to develop programs and strategies for reducing NOx emissions from airport mobile source operations based on its existing authority over airport emission sources. The AQIP includes specific initiatives and measures for certain non-aircraft emission sources operating at the Airport.

7. Emissions Inventory. The AQIP includes the 2017 base year emissions inventory and 2023 and 2031 business as usual emissions forecast as well as the 2023 and 2031 forecasts that include the projected estimates of emissions benefits from voluntary airport AQIP measures with quantifiable emission reductions. The AQIP provides an emissions inventory only for non-aircraft airport sources for which the AQIP includes specific voluntary airport measures and initiatives (i.e., ground support equipment, fuel/delivery trucks, on-road and off-road airport fleet vehicles, shuttle buses, and passenger transportation). JWA has provided the AQIP with supporting calculations to the South Coast AQMD.

C. JOINT RECITALS

1. Purpose of MOU

The purpose of this MOU is to set forth how the Parties, consistent with their respective legal authorities, intend to quantify the emission reduction benefits in the Basin through the implementation of the voluntary airport strategies developed by JWA under the AQIP and MOU, and ~~adopted~~ approved by the County on [**INSERT DATE**]. Attachment A, "MOU Schedules," sets forth the specific voluntary airport AQIP measures that are subject to the MOU. This MOU does not create SIP creditable reductions; rather, it identifies specific voluntary airport AQIP measures and provides the means for the South Coast AQMD to quantify the emission reductions from these voluntary airport AQIP measures to obtain SIP credits. The MOU is not intended to limit Airport growth. A central objective of the AQIP and MOU is to generate NOx reductions, and corresponding reductions of associated pollutants from non-aircraft airport mobile sources.

a. The MOU Schedules 1 through 3, specified in Attachment A, establish metrics for quantification of emission benefits associated with implementation of voluntary airport AQIP measures for each emissions source category consistent with the 2023 and 2031 dates for attainment of the ozone standards.

b. The Parties agree the MOU does not: i) Establish an emissions cap or any other facility-wide limit for NOx, or any other pollutant; ii) Obligate the Airport to provide a facility-wide inventory of NOx or VOC emissions; however, the parties agree to continue to work together in developing inventories of airport emission sources to support the development of future AQMPs outside of the AQIP/MOU process; or iii) Limit the Airport's ability to seek incentive or grant funding through federal, State and local programs, including but not limited to the FAA Voluntary Aviation Low Emissions (VALE) program and other similar programs, which require

emissions reductions achieved through such programs to be voluntary in nature and exceed existing obligations to achieve emissions reductions.

c. The emission reduction benefits from the voluntary airport AQIP measures in Attachment A may be used by South Coast AQMD to obtain SIP credit to the extent the emission reduction benefits quantified by South Coast AQMD for these measures satisfy USEPA's integrity elements (i.e., the emission reductions are quantifiable, surplus, permanent, and enforceable). South Coast AQMD may seek SIP credit for the quantified emission reductions through a separate SIP submittal.

d. The Parties agree that the South Coast AQMD, and not the Airport, will rectify any shortfall in prospective emission reductions from the voluntary airport AQIP measures specified in Attachment A.

e. The Parties specifically disavow any desire or intention to create any third-party beneficiary under this MOU, and specifically declare that no person or entity shall have any remedy or right of enforcement.

2. MOU Public Process

a. Following the adoption of the 2016 AQMP, South Coast AQMD staff held a series of public working group meetings to solicit comments on implementing Control Measure MOB-04 for commercial airports. Based on input received during the public process, South Coast AQMD staff developed a recommendation for the South Coast AQMD Governing Board for the development of an MOU with the commercial airports. In the event that the MOU approach with the airports was not successful, staff also recommended consideration of a regulatory approach for reducing emissions from commercial airports.

b. In May 2018, the South Coast AQMD Governing Board approved staff's recommendation and directed staff to pursue an MOU approach with the commercial airports to implement 2016 AQMP Control Measure MOB-04.

c. South Coast AQMD staff has established an MOU Working Group (WG), consisting of representatives from the South Coast AQMD, commercial airports (Los Angeles International Airport, John Wayne Airport, Ontario International Airport, Hollywood Burbank Airport, and Long Beach Airport), CARB, USEPA, environmental organizations, labor, freight industry, airlines, other stakeholders, and the public to solicit comments on the MOU development. South Coast AQMD staff will also monitor the implementation of this MOU and provide reports to USEPA. In addition, South Coast AQMD may utilize other well-established means of communication, including the South Coast AQMD website, Subscribers lists, and Governing Board and Committee meetings, for disseminating information concerning the status of MOU implementation.

d. The MOU is developed through the public process outlined above for consideration by the South Coast AQMD Governing Board and the Board of Supervisors for the County of Orange.

3. MOU Applicability

~~h.~~a. The MOU (1) addresses only the voluntary airport AQIP measures identified in Attachment A, and (2) does not supersede rules that are established by the USEPA or CARB, or legal, regulatory, or contractual obligations that the Airport is subject to such as U.S. Department of Transportation (USDOT) or Federal Aviation Administration (FAA) regulations; federal statutes, including the Anti-Head Tax Act (AHTA), the Federal Aviation Act, and the Airline Deregulation Act; international treaties; or the doctrines of federal preemption, the dormant Commerce Clause, and the Supremacy Clause.

~~h.~~b. Excluded Sources. Nothing in the AQIP or this MOU is intended or shall be interpreted to regulate or otherwise apply to (1) any source that is not specifically identified as a AQIP Source in Attachment A, including aircraft, inclusive of Auxiliary Power Units (APUs), aircraft engines or any other aircraft parts or systems, (2) the operation of any source that is not specifically identified as a AQIP Source in Attachment A, including aircraft, inclusive of APUs, aircraft engines, or any other aircraft parts or systems, either in flight or on the ground, including while taxiing or parked at an aircraft gate, remain-overnight (RON) position, maintenance facility, or any other airport location, or (3) any and all activities associated with General Aviation (GA) operations including aircraft, GA related GSE and vehicles and equipment. For purposes of the AQIP and this MOU, GA is defined as all civil aviation operations *except*: operations by 14 C.F.R. Part 121 commercial carriers, and regularly scheduled air services, defined as: (i) operated in support of, advertised, or otherwise made available to members of the public by any means for commercial air transportation purposes, and members of the public may travel or ship commercial cargo on the flights; (ii) the flights are scheduled to occur, or are represented as occurring (or available) at specified times and days; and (iii) the operator conducts, or proposes to operate, departures at JWA at a frequency greater than two (2) times per week during any consecutive three (3) week period.

II. NOW, THEREFORE, in consideration of the mutual interests and benefits of all parties to be derived from emissions reductions of NOx, and corresponding anticipated reductions of other pollutants, including VOC and PM, resulting from the implementation of the strategies identified in the voluntary AQIP, the Parties hereto agree as follows:

A. AIRPORT'S RESPONSIBILITIES

The County or Airport agrees to take the following actions:

1. AQIP Implementation. Implement voluntary airport AQIP measures identified in Attachment A, Schedules 1 through 3.
2. Monitoring and Reporting. Monitor the implementation of voluntary airport AQIP measures and provide data and annual emissions inventory reports to South Coast AQMD as described in Attachment A, Schedules 1 through 3.
3. Incentives. Provide monetary or non-monetary incentives for non-aircraft airport mobile sources to the extent possible and as included in the AQIP. Nothing in this MOU requires the Airport to provide incentives.
4. Funding. Support grant funding efforts with potential funding sources that may provide funding for the voluntary airport AQIP measures, at JWA's discretion.

B. SOUTH COAST AQMD'S RESPONSIBILITIES

South Coast AQMD agrees to take the following actions:

1. Technical Analyses for SIP Credit from AQIP emission reductions. The South Coast AQMD will provide the necessary documentation and technical analysis with respect to the calculation of the emission reductions benefits attributable to the voluntary airport AQIP measures identified in Attachment A. This would include, but not be limited to, an analysis of the AQMP/SIP baseline for affected airport sources, emission reductions achieved through AQIP measures in Attachment A based on the AQIP inventories, and an estimation of emissions reductions benefits and corresponding SIP credits. Factors to be considered for purposes of calculating the emission reductions benefits attributable to the voluntary airport AQIP measures in Attachment A shall include, but not be limited to: growth forecasts from the airports, implementation schedules for voluntary airport AQIP measures, the availability of funding for relevant incentives programs, and the technical and economic feasibility of specific voluntary airport AQIP measures.
2. Federal Enforceability. To the extent necessary to obtain SIP approval, the South Coast AQMD will provide federally enforceable commitments in a SIP update document that is separate from this MOU to the USEPA after approval by the South Coast AQMD and the CARB Boards. South Coast AQMD will monitor, assess, and report emission reductions benefits from the voluntary airport AQIP measures identified in Attachment A to the USEPA.
3. Responsibility for Shortfall. The South Coast AQMD shall be solely responsible to make up any emissions reduction shortfalls that may occur in the event that the actual voluntary airport AQIP emissions reduction benefits do not achieve

the projected emissions reduction benefits resulting from implementation of the voluntary airport AQIP measures specified in Attachment A. South Coast AQMD will also commit to adopt and submit substitute measures to USEPA to remedy any potential emission reduction shortfall associated with implementation of the AQIP measures identified in Attachment A. The Airport shall have no obligation(s) and/or requirement(s) to implement any substitute measures to remedy any potential emission reduction shortfall associated with implementation of the AQIP measures identified in Attachment A, unless otherwise mutually agreed on by both parties. Notwithstanding the above, JWA and South Coast AQMD agree that, in the event that the actual emission reductions associated with implementation of voluntary AQIP measures in Attachment A are less than the estimated emissions reduction benefits projected for implementation of these voluntary AQIP measures, JWA and South Coast AQMD will work together to consider potential new or enhanced programs, or better efforts to quantify existing programs, to help South Coast AQMD address any shortfalls.

4. Funding. The South Coast AQMD, at its Governing Board's discretion, will support grant funding efforts with potential funding sources that may provide funding for the voluntary airport AQIP measures.
5. Monitoring. The South Coast AQMD will monitor and assess the implementation of SIP creditable AQIP measures based on information provided by JWA as outlined in Schedules 1 through 3 in Attachment A.
6. Information Sharing. The South Coast AQMD will provide the means for ensuring that emission reduction data and other pertinent information related to the implementation of SIP creditable AQIP measures are fully accessible to the public and the USEPA.

C. MOU SCHEDULES

The voluntary airport AQIP measures for which the South Coast AQMD may quantify emission reductions and seek SIP credit through a separate SIP submittal are identified in the following Schedules 1 through 3 in Attachment A and are incorporated as part of this MOU:

1. MOU SCHEDULE NO. 1 - GROUND SUPPORT EQUIPMENT
2. MOU SCHEDULE NO. 2 – JET FUEL DELIVERY TRUCKS
3. MOU SCHEDULE NO. 3 – PARKING SHUTTLE BUS ELECTRIFICATION

Each Schedule focuses on the voluntary airport AQIP measure and time frame aligned with the AQMP and SIP emission reduction target dates (i.e., 2023, 2031), and includes technical details pertinent to the equipment category such as:

- Metrics or performance targets
- Schedule for program implementation

- Annual reporting by the Airport to South Coast AQMD

Variations in the nature of information and data needed for each of the source measures may be addressed with focused and adaptive revisions to the individual equipment category schedules and may be revised by mutual agreement of the Parties without modifying this MOU.

D. TERM OF MOU. This MOU shall be in full force and in effect when signed by all Parties following their respective required authorization processes. The initial term of this MOU shall expire on December 31, ~~2031~~ 2032 unless terminated earlier pursuant to Section II.E, below. Prior to expiration of this MOU, all Parties agree to meet to evaluate the need for continuing participation. If all Parties agree that continuing participation is desirable, they shall negotiate for their respective Boards' approval, a written extension of the term of this MOU, and any applicable additional MOU Schedules.

E. WITHDRAWAL AND EARLY TERMINATION. If any Party to this MOU determines that it wishes to no longer be a party to this MOU, then the Party shall provide notice to the other Party at least ninety (90) days in advance of the specified date of termination of the MOU. The Parties commit to work together to resolve any issues and negotiate an updated MOU at least thirty (30) days in advance of the specified date of termination of the MOU. If the Parties are unable to reach agreement, the MOU shall terminate on the date specified in the notification.

F. ENFORCEABILITY. The Parties agree to implement the provisions in the MOU. The parties agree that implementation of the measures specified in Attachment A is not to be construed as a regulation or requirement of the South Coast AQMD. In the event that any Party fails to meet its commitment(s) or anticipates an inability to meet its commitment(s), the Party shall provide notice to the other Party within sixty (60) days of such determination and seek to negotiate a mutually agreeable solution within ninety (90) days of the date of the notice. The Parties shall continue to comply with all other commitments under this MOU during the negotiations. Nothing contained in this paragraph is intended to limit any rights or remedies that the Parties may have under law. The Parties shall attempt in good faith to resolve any controversy that may arise out of or relating to this MOU. If a controversy or claim should arise that cannot be resolved informally by the respective staffs, executive level representatives of the Parties will meet at least once in person and, in addition, at least once in person or by telephone to attempt to resolve the matter. The representatives will make every effort to meet as soon as reasonably possible at a mutually agreed time and place.

G. NOTICES. All notices that are required under this MOU shall be provided in the manner set forth herein, unless specified otherwise. Notice to a Party shall be delivered to the attention of the person listed below, or to such other person or persons as may hereafter be designated by that Party in writing. Notice shall be in writing sent by U.S. Certified Mail, Return Receipt Requested, or a nationally

recognized overnight courier service. Notice shall be deemed to be received when delivered (written receipt of delivery).

South Coast AQMD: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Assistant Deputy Executive Officer - Planning, Rule Development & Area Sources

JOHN WAYNE AIRPORT: Mr. Barry Rondinella
Airport Director
3160 Airway Avenue
Costa Mesa, CA 92626
Attn: Airport Environmental Manager

H. AVAILABLE FUNDING. Each Party shall be responsible for its respective costs associated with this MOU and acknowledges that the agreements contained herein by ~~any~~ the Parties ~~other Party~~ are subject to the availability of appropriated funds. No Party will submit a claim for compensation to ~~any~~ the other Party, or otherwise seek reimbursement of costs from ~~any~~ the other Party, for activities carried out pursuant to this MOU.

I. FUTURE AGREEMENTS. This MOU does not restrict any future agreements between the Parties with respect to the subject matter stated herein or any other subject matter.

J. JOINT WORK PRODUCT. This MOU shall not be construed against the Party preparing the same, shall be construed without regard to the identity of the person who drafted such and shall be construed as if all Parties had jointly prepared this MOU and it shall be deemed their joint work product.

K. RECITALS. Each of the Recitals is incorporated into this MOU.

L. ENTIRE UNDERSTANDING. This MOU, including all attachments, constitutes the entire understanding between the Parties and supersedes all other agreements, oral or written, with respect to the subject matter herein. This MOU shall not be amended except in writing, signed by the Parties which expressly refers to this ~~contract~~MOU.

M. VENUE. This MOU shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this MOU shall be Orange County, California, USA.

N. SEVERABILITY. If a court of competent jurisdiction holds any provision of this MOU to be illegal, unenforceable, or invalid in whole or in part for any reason, the

validity and enforceability of the remaining provisions, or portions of those provisions, will not be affected.

O. ATTORNEYS' FEES. In the event any action is filed in connection with the enforcement or interpretation of this MOU, each Party shall bear its own attorneys' fees and costs.

P. AUTHORITY. Except as expressly stated herein, nothing in this MOU shall be construed as a waiver of any Party's discretionary authority or deemed to restrict authority granted to any Party under law in any way with respect to future legislative, administrative, or other actions.

Q. VOLUNTARY AQIP. The Parties agree that the Airport's AQIP measures set forth in Attachment A are voluntary and are not to be construed as a regulation or requirement of South Coast AQMD.

R. MOU Modification. This MOU may be subsequently modified at any time but no modification shall be valid or binding unless made in writing and signed by authorized representatives of both Parties.

S. COUNTERPARTS. The signature pages of this MOU are being executed in counterparts by authorized signatories of the Parties following the approvals by their respective public agency governing boards. When both Parties have signed, all executed counterparts taken together shall constitute one and the same instrument.

T. AUTHORIZED SIGNATURES. Each signatory of this MOU represents that s/he is authorized to execute on behalf of the Party for which s/he signs. Each Party represents that it has legal authority to enter into this MOU and to perform all obligations under this MOU.

U. NO ENFORCEMENT AGAINST THIRD PARTIES. The South Coast AQMD shall not seek to enforce the measures specified in Attachment A or any of the measures or new initiatives in the AQIP or any of its terms against JWA's tenants, concessionaries, third party licensees, vendors, or other relevant operators doing business at JWA facilities.

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IN WITNESS WHEREOF, the Parties hereto have caused this Memorandum of Understanding to be executed by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	**JOHN WAYNE AIRPORT, ORANGE COUNTY**
By _____	By _____
Name: Dr. William Burke	Name: Mr. Barry Rondinella
Title: Chairman, South Coast Governing Board	Title: Airport Director
Date: _____, 20___	Date: _____, 20___
Attest _____	Attest _____
Name:	Name:
Title:	Title:
APPROVED AS TO FORM:	APPROVED AS TO FORM:
By _____	By _____
BAYRON T. GILCHRIST,	Deputy County Counsel
General Counsel	County of Orange
Date: _____, 20___	Date: _____, 20___

ATTACHMENT A

MOU Schedules

MOU SCHEDULE NO. 1 – GROUND SUPPORT EQUIPMENT

This MOU Schedule No. 1 is based on JWA's AQIP measure for ground support equipment[1].

I. PROGRAM DESCRIPTION – Require that all ground support equipment associated with commercial operations achieve a fleet average NOx emission factors of 1.7 and 0.9 grams per brake horsepower hour (g/bhp-hr) by January 1,~~in~~ 2023 and 2031, respectively.

II. PROGRAM TIMEFRAME - Upon execution through ~~2031~~2032.

III. AIRPORT OBLIGATIONS – JWA agrees to:

A. Implement the measure by working with Airport tenants to achieve the above performance targets by specified dates through accelerated turnover to cleaner equipment. JWA shall have complete discretion as to mechanisms used to implement this measure. Such mechanisms may include leases, licenses, operational requirements, or other agreements.

B. Beginning in 2021, and every year thereafter through 2032, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:

1. List of ground support equipment subject to GSE measure with the following information:

a. Equipment ID
b. Equipment type
c. Fuel type
d. Engine model year
e. Power rating (hp or kW)
f. Engine tier level (for diesel engines)
g. Annual activity data for non-zero emission equipment that is sufficient to determine emission reductions at a reasonable level of accuracy (i.e., actual operating hours from hour meter readings/maintenance records, average operating hours representative of equipment type and airport, or average operating hours by equipment/fuel type from CARB's OFFROAD

[1] Ground Support Equipment or "GSE" is any vehicle or equipment used to support aircraft operations that is subject to, or included in compliance plans to meet, the requirements of the California Air Resources Board (CARB) In-Use Off-Road Diesel (ORD) Vehicle Regulation Program, CARB Off-Road Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation Program, or CARB Portable Equipment Registration Program and associated Portable Diesel Engine Airborne Toxic Control Measure. Furthermore, GSE as defined here only includes equipment that is not subject to compliance with South Coast AQMD Rule XX – RECLAIM, or included in a mobile source emission reduction credit program under South Coast AQMD Rule XVI.

model, if applicable)

2. For non-zero emission GSE subject to this GSE measure, information regarding the sale or retirement of equipment available through CARB's DOORS system and, for pre-Tier 4 diesel, pre-2010 gasoline, or pre-2010 LPG ground support equipment relocated from JWA~~the AIRPORT~~ to another airport within the South Coast Air Basin, identify: a) the airport to which equipment is relocated, b) date of relocation, and c) ~~-~~estimated projected usage hours.

~~1.~~3. An annual emission inventory for all ground support equipment associated with commercial operations at JWA, including methodology and calculations.

IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD agrees to:

A. Verify emission reductions from the implementation of this AQIP measure in order to determine actual emission reductions.

B. Ensure that any emission reduction data related to this AQIP measure and other pertinent information are accessible to the public and the USEPA.

MOU SCHEDULE NO. 2 – JET FUEL DELIVERY TRUCKS

This MOU Schedule No. 2 is based on JWA's AQIP measure for jet fuel delivery trucks.

I. PROGRAM DESCRIPTION – Install a jet fuel pipeline by the end of 2019 and eliminate routine commercial passenger jet fuel delivery trucks by January 1, 2023.

II. PROGRAM TIMEFRAME - Upon execution through ~~2031~~2032.

III. AIRPORT OBLIGATIONS – JWA agrees to:

A. Work with third parties to complete the jet fuel pipeline installation and work with tenants to eliminate routine commercial passenger jet fuel truck deliveries.

B. Beginning in 2021, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:

1. Total number of routine and non-routine truck trips delivering jet fuel for commercial passenger aviation, and truck model years, if available.

2. Total amount of jet fuel delivered.

3. An estimate of total vehicle miles travelled.

4. An emission inventory for commercial passenger jet fuel delivery trucks, including methodology and calculations.

IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD agrees to:

A. Verify emission reductions from the implementation of this AQIP measure by JWA in order to determine actual emission reductions.

B. Ensure that any emission reduction data related to this AQIP measure and other pertinent information are accessible to the public and the USEPA.

MOU SCHEDULE NO. 3 – PARKING SHUTTLE BUS ELECTRIFICATION

This MOU Schedule No. 3 is based on JWA's AQIP measure for shuttle bus (off airport employee and passenger parking lots) electrification.

I. PROGRAM DESCRIPTION Replace a minimum of 50% and 80% of Airport employee and passenger remote parking compressed natural gas (CNG) shuttle buses with battery-electric shuttle buses by January 1, 2023 and 2031, respectively. The Airport may continue to reserve non-battery-electric shuttle buses for standby and emergency use.

II. PROGRAM TIMEFRAME - Upon execution through ~~2031~~2032.

III. AIRPORT OBLIGATIONS – JWA agrees to:

A. Replace existing CNG shuttle buses, with zero-emission buses as described above.

B. Beginning in 2021, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:

1. List of shuttle buses operating at JWA with the following information:

   a. Vehicle Identification Number
   b. Vehicle model year
   c. Vehicle GVWR
   d. Bus engine model year
   e. Power rating (hp or kW)
   f. Fuel type
   g. Odometer reading
   h. Vehicle miles travelled

2. An emission inventory for shuttle buses, including methodology and calculations.

3. List of shuttle buses replaced during the reported year and information specified in III.B.1 above on replaced and replacement buses.

IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD agrees to:

A. Verify emission reductions from the implementation of this AQIP measure by JWA in order to determine actual emission reductions.

B. Ensure that any emission reduction data related to this AQIP measure and other pertinent information are accessible to the public and the USEPA.

MEMORANDUM OF UNDERSTANDING BETWEEN
THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AND
THE CITY OF LONG BEACH
REGARDING LONG BEACH AIRPORT'S AIR QUALITY IMPROVEMENT PLAN

This Memorandum of Understanding ("MOU") is entered into by the South Coast Air Quality Management District ("South Coast AQMD"), acting by and through its Governing Board, and the City of Long Beach ("City"), in its capacity as the proprietor and certificated operator of the Long Beach Airport ("LGB" or "Airport"). The City and South Coast AQMD shall be referred to collectively as Parties (each a Party) to this MOU.

I. RECITALS

A. RECITALS BY SOUTH COAST AQMD

1. Air Regulatory Agencies. Air pollution remains a significant public health concern in many parts of California, and specifically in the South Coast Air Basin (Basin). The South Coast AQMD, California Air Resources Board (CARB), and the United States Environmental Protection Agency (USEPA) are the regional, state, and federal regulatory agencies, respectively, with jurisdiction over air quality in the Basin. South Coast AQMD and CARB have developed and approved the 2016 Air Quality Management Plan (AQMP) for the Basin for incorporation into the California State Implementation Plan (SIP). The 2016 AQMP ~~has been submitted to~~was approved by USEPA ~~and is pending its approval~~on October 1, 2019.

2. South Coast AQMD. The South Coast AQMD is the regional air pollution control agency primarily responsible for reducing air pollution in the Basin, which consists of the County of Orange, and the non-desert portions of the Counties of Los Angeles, Riverside, and San Bernardino. LGB is located within the Basin.

3. Need for Emission Reductions. The Basin is classified as an extreme non-attainment area for the 1997 and 2008 8-hour ozone national ambient air quality standards (NAAQS) with statutory deadlines to reach attainment by 2023 and 2031, respectively. Despite significant air quality improvements achieved over the last several decades, to meet these standards, emissions of oxides of nitrogen (NOx) must be reduced by 45% in 2023 and 55% in 2031 as outlined in the 2016 AQMP, adopted by the South Coast AQMD Governing Board in March 2017. The 2016 AQMP included Control Measure MOB-04 (Emission Reductions at Commercial Airports), with the goal of achieving

emission reductions from commercial airports through implementation of voluntary airport strategies.

4. Emissions from Sources at Commercial Airports. Emissions associated with operations at commercial airports contribute to adverse air quality in the Basin, primarily due to airport-related mobile source activities. These sources include aircraft, cargo trucks, ground support equipment (GSE), off-road vehicles, shuttle buses, and passenger vehicles. The emissions from commercial airports are expected to increase in future years based on the latest airport growth forecasts. Therefore, NOx emission reductions from commercial airports can assist with the effort to attain the ozone standards in 2023 and 2031.

B. RECITALS BY THE CITY

1. Airport. The City is the proprietor and certificated operator of LGB.

2. Airport Obligations. The City has entered into this MOU pursuant to its proprietary and governmental powers and authority under the State Aeronautics Act (California Public Utilities Code Sections 21001, et seq.).

3. Management and Operation. The Air Quality Improvement Plan (AQIP) and this MOU reflect the experience of the City in the management and operation of the Airport including extensive experience with the federal government, commercial aviation operators, general aviation operators and suppliers, the community, local public entities, and the residents of areas in the general vicinity of LGB.

4. Responsibility to Community. The MOU supports and is made in recognition of the importance of LGB to the economic health and well-being of the community surrounding LGB and the importance of balancing the needs of the community for adequate commercial air transportation facilities with environmentally responsible air transportation operations at LGB.

5. Statement of Intent. The City's consideration of the matters and issues referred to in this MOU is not intended as a statement that such matters and issues are the only ones considered by the City in connection with the formulation of the AQIP and this MOU. Rather this MOU reflects consideration by the City of all of its state and federal obligations and responsibilities as the proprietor of the Airport and addresses only those emission sources that the Airport believes it can reasonably affect.

6. Air Quality Improvement Plan (AQIP). The City has developed its own voluntary AQIP, with technical support provided by the South Coast AQMD. The AQIP represents the Airport's best efforts to develop programs and

strategies for reducing NOx emissions from airport mobile source operations based on its existing authority over airport emission sources. The AQIP includes specific initiatives and measures for certain non-aircraft emission sources operating at the Airport.

7. Emissions Inventory - The LGB AQIP includes the 2017 base year emissions inventory and 2023 and 2031 business as usual emissions forecasts as well as the 2023 and 2031 forecasts that include the projected estimates of emissions benefits from voluntary airport AQIP measures with quantifiable emission reductions. The AQIP provides an emissions inventory only for non-aircraft airport sources for which the AQIP includes specific voluntary airport measures and initiatives (i.e., ground support equipment, fuel/delivery trucks, on-road and off-road airport fleet vehicles, shuttle buses, and passenger transportation). The City has provided the AQIP with supporting calculations to the South Coast AQMD.

C. JOINT RECITALS

1. Purpose of MOU

The purpose of this MOU is to set forth how the Parties, consistent with their respective legal authorities, intend to quantify the emission reduction benefits in the Basin through the implementation of the voluntary airport strategies developed by the City under the AQIP and MOU, and adopted by the City on [**INSERT DATE**]. Attachment A, "MOU Schedules" sets forth the specific voluntary airport AQIP measures that are the subject to the MOU. This MOU does not create SIP creditable reductions; rather, it identifies specific voluntary airport AQIP measures and provides the means for the South Coast AQMD to quantify the emission reductions from these voluntary airport AQIP measures to obtain SIP credits. The MOU is not intended to limit Airport growth. A central objective of the AQIP and MOU is to generate NOx reductions, and corresponding reductions of associated pollutants from non-aircraft airport mobile sources.

a. MOU Schedule 1, specified in Attachment A, establishes metrics for quantification of emission benefits associated with implementation of voluntary airport AQIP measures for each emission source category consistent with the 2023 and 2031 dates for attainment of the ozone standards.

b. The Parties agree the MOU does not: (1) Establish an emissions cap or any other facility-wide limit for NOx, or any other pollutant; (2) Obligate the Airport to provide a facility-wide inventory of NOx or VOC emissions; however, the parties agree to continue to work together in developing

inventories of airport emission sources to support the development of future AQMPs outside of the AQIP/MOU process; or (3) Limit the City's ability to seek incentive or grant funding through federal, State and local programs, including but not limited to the FAA Voluntary Aviation Low Emissions (VALE) program and other similar programs, which require emissions reductions achieved through such programs to be voluntary in nature and exceed existing obligations to achieve emissions reductions.

c. The emission reduction benefits from the voluntary airport AQIP measures in Attachment A may be used by South Coast AQMD to obtain SIP credit to the extent the emission reduction benefits quantified by South Coast AQMD for these measures satisfy USEPA's integrity elements (i.e., the emission reductions are quantifiable, surplus, permanent, and enforceable). South Coast AQMD may seek SIP credit for the quantified emission reductions through a separate SIP submittal.

d. The Parties agree that the South Coast AQMD, and not the City, will rectify any shortfall in prospective emission reductions from the voluntary airport AQIP measures specified in Attachment A.

e. The Parties specifically disavow any desire or intention to create any third-party beneficiary under this MOU, and specifically declare that no person or entity shall have any remedy or right of enforcement.

2. <u>MOU Public Process</u>

a. Following the adoption of the 2016 AQMP, South Coast AQMD staff held a series of public working group meetings to solicit comments on implementing Control Measure MOB-04 for commercial airports. Based on input received during the public process, South Coast AQMD staff developed a recommendation for the South Coast AQMD Governing Board for the development of an MOU with the commercial airports. In the event that the MOU approach with the airports was not successful, staff also recommended consideration of a regulatory approach for reducing emissions from commercial airports.

b. In May 2018, the South Coast AQMD Governing Board approved staff's recommendation and directed staff to pursue an MOU approach with the commercial airports to implement 2016 AQMP Control Measure MOB-04.

c. South Coast AQMD staff has established an MOU Working Group (WG), consisting of representatives from the South Coast AQMD, commercial airports (Los Angeles International Airport, John Wayne Airport, Ontario International Airport, Hollywood Burbank Airport, and Long Beach Airport),

CARB, USEPA, environmental organizations, labor, freight industry, airlines, other stakeholders, and the public to solicit comments on the MOU development. South Coast AQMD staff will also monitor the implementation of this MOU and provide reports to USEPA. In addition, South Coast AQMD may utilize other well-established means of communication, including the South Coast AQMD website, Subscribers lists, and Governing Board and Committee meetings, for disseminating information concerning the status of MOU implementation.

d. The MOU is developed through the public process outlined above for consideration by the South Coast AQMD Governing Board and the City Council.

3. MOU Applicability. The MOU (1) addresses only the voluntary Airport AQIP measure identified in Attachment A, and (2) does not supersede rules that are established by the USEPA or CARB, or legal, regulatory, or contractual obligations that the Airport is subject to such as U.S. Department of Transportation (USDOT) or Federal Aviation Administration (FAA) regulations; federal statutes, including the Anti-Head Tax Act (AHTA), the Federal Aviation Act, and the Airline Deregulation Act; international treaties; or the doctrines of federal preemption, the dormant Commerce Clause, and the Supremacy Clause.

   a. Excluded Sources. Nothing in the AQIP or this MOU is intended or shall be interpreted to regulate or otherwise apply to (1) any source that is not specifically identified as a AQIP Source in Attachment A, including aircraft, inclusive of Auxiliary Power Units (APUs), aircraft engines or any other aircraft parts or systems, (2) the operation of any source that is not specifically identified as a AQIP Source in Attachment A, namely aircraft, inclusive of APUs, aircraft engines, or any other aircraft parts or systems, either in flight or on the ground, including while taxiing or parked at an aircraft gate, remain-overnight (RON) position, maintenance facility, or any other airport location, or (3) any and all activities associated with General Aviation (GA) operations including aircraft, GA related GSE and vehicles and equipment.

II. NOW, THEREFORE, in consideration of the mutual interests and benefits of all parties to be derived from emissions reductions of NOx, and corresponding anticipated reductions to other pollutants, including VOC and PM, resulting from the implementation of the strategies identified in the voluntary AQIP, the Parties hereto agree as follows:

A. <u>CITY'S RESPONSIBILITIES</u>

The City agrees to take the following actions:

1. AQIP Implementation. Implement AQIP voluntary airport measures identified in Attachment A, Schedule 1.

2. Monitoring and Reporting. Monitor the implementation of voluntary airport AQIP measures and provide data and annual emissions inventory reports to South Coast AQMD as described in Attachment A, Schedule 1.

3. Incentives. Provide monetary or non-monetary incentives for non-aircraft airport mobile sources to the extent possible and as included in the AQIP. Nothing in this MOU requires the Airport to provide incentives.

4. Funding. Support grant funding efforts with potential funding sources that may provide funding for the voluntary airport AQIP measures, at the City's discretion.

B. SOUTH COAST AQMD'S RESPONSIBILITIES

South Coast AQMD agrees to take the following actions:

1. Technical Analyses for SIP Credit from AQIP emission reductions. The South Coast AQMD will provide the necessary documentation and technical analysis with respect to the calculation of the emission reductions benefits attributable to the voluntary airport AQIP measures identified in Attachment A. This would include, but not be limited to, an analysis of the AQMP/SIP baseline for affected airport sources, emission reductions achieved through AQIP measures in Attachment A based on the AQIP inventories, and an estimation of emissions reductions benefits and corresponding SIP credits. Factors to be considered for purposes of calculating the emission reductions benefits attributable to the voluntary airport AQIP measures in Attachment A shall include, but not be limited to: growth forecasts from the airports, implementation schedules for voluntary airport AQIP measures, the availability of funding for relevant incentives programs, and the technical and economic feasibility of specific voluntary airport AQIP measures.

2. Federal Enforceability. To the extent necessary to obtain SIP approval, the South Coast AQMD will provide federally enforceable commitments in a SIP update document that is separate from this MOU to the USEPA after approval by the South Coast AQMD and the CARB Boards. South Coast AQMD will monitor, assess, and report emission reductions benefits from the voluntary airport AQIP measures identified in Attachment A to the USEPA.

3. Responsibility for Shortfall. The South Coast AQMD shall be solely responsible to make up any emissions reduction shortfalls that may occur in the event that

the actual voluntary airport AQIP emissions reduction benefits do not achieve the projected emissions reduction benefits resulting from implementation of the voluntary airport AQIP measures specified in Attachment A. South Coast AQMD will also commit to adopt and submit substitute measures to USEPA to remedy any potential emission reduction shortfall associated with implementation of the AQIP measures identified in Attachment A. The City shall have no obligation(s) and/or requirement(s) to implement any substitute measures to remedy any potential emission reduction shortfall associated with implementation of the AQIP measures identified in Attachment A, unless otherwise mutually agreed on by both parties. Notwithstanding the above, the City and South Coast AQMD agree that, in the event that the actual emission reductions associated with implementation of voluntary AQIP measures in Attachment A are less than the estimated emissions reduction benefits from implementation of these voluntary AQIP measures, the City and South Coast AQMD will work together to consider potential new or enhanced programs, or better efforts to quantify existing programs, to help South Coast AQMD address any shortfalls.

4. Funding. The South Coast AQMD, at its Governing Board's discretion, will support grant funding efforts with potential funding sources that may provide funding for the voluntary airport AQIP measures.

5. Monitoring. The South Coast AQMD will monitor and assess the implementation of SIP creditable AQIP measures based on information provided by the City as outlined in Schedule 1 in Attachment A.

6. Information Sharing. The South Coast AQMD will provide the means for ensuring that emission reduction data and other pertinent information related to the implementation of SIP creditable AQIP measures are fully accessible to the public and the USEPA.

C. MOU SCHEDULES

The voluntary airport AQIP measures for which the South Coast AQMD may quantify emission reductions and seek SIP credit through a separate SIP submittal are identified in Schedule 1 in Attachment A and are incorporated as part of this MOU:

1. MOU SCHEDULE NO. 1 - GROUND SUPPORT EQUIPMENT

Schedule No. 1 focuses on the voluntary airport AQIP measure and time frame aligned with the AQMP and SIP emission reduction target dates (i.e., 2023 and 2031), and includes technical details pertinent to the equipment category such as:

- Metrics or performance targets
- Schedule for program implementation
- Annual reporting by the City to South Coast AQMD

Variations in the nature of information and data needed for each of the source measures may be addressed with focused and adaptive revisions to the individual equipment category schedules and may be revised by mutual agreement of the Parties without modifying this MOU.

D. TERM OF MOU. This MOU shall be in full force and in effect when signed by all Parties following their respective required authorization processes. The initial term of this MOU shall expire on December 31, ~~2031~~ 2032 unless terminated earlier pursuant to Section II.E, below. Prior to expiration of this MOU, all Parties agree to meet to evaluate the need for continuing participation. If all Parties agree that continuing participation is desirable, they shall negotiate for their respective Boards' approval, a written extension of the term of this MOU, and any applicable additional MOU Schedules.

E. WITHDRAWAL AND EARLY TERMINATION. If any Party to this MOU determines that it wishes to no longer be a party to this MOU, then the Party shall provide notice to the other Party at least ninety (90) days in advance of the specified date of termination of the MOU. The Parties commit to work together to resolve any issues and to negotiate an updated MOU at least thirty (30) days in advance of the specified date of termination of the MOU. If the Parties are unable to reach agreement, the MOU shall terminate on the date specified in the notification.

F. ENFORCEABILITY. The Parties commit to implement the provisions in the MOU. The parties agree that implementation of the measures specified in Attachment A is not to be construed as a regulation or requirement of the South Coast AQMD. In the event that any party fails to meet its commitment(s) or anticipates an inability to meet its commitment(s), the Party shall provide notice to the other Party within sixty (60) days of such determination and seek to negotiate a mutually agreeable solution within ninety (90) days of the date of the Notice. The Parties shall continue to comply with all other commitments under this MOU during the negotiations. Nothing contained in this paragraph is intended to limit any rights or remedies that the Parties may have under law. The Parties shall attempt in good faith to resolve any controversy that may arise out of or relating to this MOU. If a controversy or claim should arise that cannot be resolved informally by the respective staffs, executive level representatives of the Parties will meet at least once in person and, in addition, at least once in person or by telephone to attempt to resolve the matter. The Representatives will make every effort to meet as soon as reasonably possible at a mutually agreed time and place.

G. NOTICES. All notices that are required under this MOU shall be provided in the manner set forth herein, unless specified otherwise. Notice to a Party shall be delivered to the attention of the person listed below, or to such other person or persons as may hereafter be designated by that Party in writing. Notice shall be in writing sent by U.S. Certified Mail, Return Receipt Requested, or a nationally recognized overnight courier service. Notice shall be deemed to be received when delivered (written receipt of delivery).

South Coast AQMD:
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Assistant Deputy Executive Officer - Planning, Rule Development & Area Sources

City:
Long Beach Airport
4100 E. Donald Douglas Drive, Floor 2
Long Beach, CA 90808
Attn: Cynthia Guidry – Director, Long Beach Airport

H. AVAILABLE FUNDING. Each Party shall be responsible for its respective costs associated with this MOU and acknowledges that the agreements ~~commitments~~ contained ~~herein~~ by ~~any~~ the ~~other~~ Part~~y~~ies are subject to the availability of appropriated funds. No Party will submit a claim for compensation to ~~any~~ the other Party, or otherwise seek reimbursement of costs from ~~any~~ the other Party, for activities carried out pursuant to this MOU.

I. FUTURE AGREEMENTS. This MOU does not restrict any future agreements between the Parties with respect to the subject matter stated herein or any other subject matter.

J. JOINT WORK PRODUCT. This MOU shall not be construed against the Party preparing the same, shall be construed without regard to the identity of the person who drafted such and shall be construed as if all Parties had jointly prepared this MOU and it shall be deemed their joint work product.

K. RECITALS. Each of the Recitals is incorporated into this MOU.

L. ENTIRE UNDERSTANDING. This MOU, including all attachments, constitutes the entire understanding between the Parties and supersedes all other agreements, oral or written, with respect to the subject matter herein. This MOU shall not be amended except in writing, signed by the Parties which expressly refers to this MOU.

M. VENUE. This MOU shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this MOU shall be Los Angeles County, California, USA.

N. SEVERABILITY. If a court of competent jurisdiction holds any provision of this MOU to be illegal, unenforceable, or invalid in whole or in part for any reason, the validity and enforceability of the remaining provisions, or portions of those provisions, will not be affected.

O. ATTORNEYS' FEES. In the event any action is filed in connection with the enforcement or interpretation of this MOU, each Party shall bear its own attorneys' fees and costs.

P. AUTHORITY. Except as expressly stated herein, nothing in this MOU shall be construed as a waiver of any Party's discretionary authority or deemed to restrict authority granted to any Party under law in any way with respect to future legislative, administrative, or other actions.

Q. VOLUNTARY AQIP. The Parties agree that the Airport's AQIP measures in Attachment A are voluntary and are not to be construed as a regulation or requirement of South Coast AQMD.

R. MOU Modification. This MOU may be subsequently modified at any time but no modification shall be valid or binding unless made in writing and signed by authorized representatives of both Parties.

S. COUNTERPARTS. The signature pages of this MOU are being executed in counterparts by authorized signatories of the Parties following the approvals by their respective public agency governing boards. When both Parties have signed, all executed counterparts taken together shall constitute one and the same instrument.

T. AUTHORIZED SIGNATURES. Each signatory of this MOU represents that s/he is authorized to execute on behalf of the Party for which s/he signs. Each Party represents that it has legal authority to enter into this MOU and to perform all obligations under this MOU.

U. NO ENFORCEMENT AGAINST THIRD PARTIES. The South Coast AQMD shall not seek to enforce the measure specified in Attachment A or any of the measures or initiatives in the AQIP or any of its terms against the Airport's tenants, concessionaires, third party licensees, vendor(s), or other relevant operators doing business at Airport or City facilities.

IN WITNESS WHEREOF, the Parties hereto have caused this Memorandum of Understanding to be executed by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	**LONG BEACH AIRPORT**
By _____	By _____
Name: Dr. William Burke	Name: Thomas B. Modica
Title: Chairman, South Coast Governing Board	Title: Acting City Manager, City of Long Beach
Date: _____, 20___	Date: _____, 20___
Attest _____	Attest _____
Name:	Name:
Title:	Title:
APPROVED AS TO FORM:	APPROVED AS TO FORM:
Date: _____, 20___	Date: _____, 20___
BAYRON T. GILCHRIST,	MICHAEL J. MAIS,
General Counsel	Assistant City Attorney, City of Long Beach
By _____	By _____
Name:	Name:
Title:	Title:

ATTACHMENT A

MOU SCHEDULE NO. 1 – GROUND SUPPORT EQUIPMENT

This MOU Schedule No. 1 is based on the City's AQIP measure for ground support equipment[1].

I. PROGRAM DESCRIPTION – Require that all ground support equipment associated with commercial operations achieve a fleet average NOx emission factors of 0.93 and 0.44 g/bhp-hr ~~in 2023 and 2031~~by January 1, 2023 and January 1, 2031, respectively.

II. PROGRAM TIMEFRAME - Upon execution through ~~2031~~2032.

III. AIRPORT OBLIGATIONS – The City agrees to:

A. Implement the measure by working with airport tenants to achieve the above performance targets by specified dates through accelerated turnover to cleaner equipment. Airport shall have complete discretion as to mechanisms used to implement this measure. Such mechanisms may include leases, licenses, operational requirements, or other agreements.

B. Beginning in 2021, and every year thereafter through ~~2031~~2032, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:

1. List of ground support equipment ~~as provided by airlines operating~~subject to this GSE measure ~~at LGB~~ with the following information:

a. Equipment ID
b. Equipment type
c. Fuel type
d. Engine model year
e. Power rating (hp or kW)
f. Engine tier level (for diesel engines)
g. Annual activity data for non-zero emission equipment that is sufficient to determine emission reductions at a reasonable level of accuracy (i.e., actual operating hours from hour meter readings/maintenance records, average operating hours representative of equipment type and airport, or average

[1] Ground Support Equipment or "GSE" is any vehicle or equipment used to support aircraft operations that is subject to, or included in compliance plans to meet, the requirements of the California Air Resources Board (CARB) In-Use Off-Road Diesel (ORD) Vehicle Regulation Program, CARB Off-Road Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation Program, or CARB Portable Equipment Registration Program and associated Portable Diesel Engine Airborne Toxic Control Measure. Furthermore, GSE as defined here only includes equipment that is not subject to compliance with SCAQMD Rule XX – RECLAIM, or included in a mobile source emission reduction credit program under SCAQMD Rule XVI.

operating hours by equipment/fuel type from CARB's OFFROAD model, if applicable)

2. For non-zero emission ground support equipment subject to this GSE measure, information regarding the sale or retirement of equipment available through CARB's DOORS system and, for pre-Tier 4 diesel, pre-2010 gasoline, or pre-2010 LPG ground support equipment relocated from LGB to another airport within the South Coast Air Basin, identify: a) the airport to which equipment is relocated, b) date of relocation, and c) estimated projected usage hours.

~~2.~~3. An annual emission inventory for all ground support equipment associated with commercial operations at LGB, including methodology and calculations.

IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD agrees to:

A. Verify emission reductions from the implementation of this AQIP measure in order to determine actual emission reductions.

B. Ensure that any emission reduction data related to this AQIP measure and other pertinent information are accessible to the public and the USEPA.

MEMORANDUM OF UNDERSTANDING BETWEEN
THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AND
ONTARIO INTERNATIONAL AIRPORT
REGARDING ONTARIO INTERNATIONAL AIRPORT'S AIR QUALITY IMPROVEMENT PLAN

This Memorandum of Understanding (MOU) is entered into by the South Coast Air Quality Management District (South Coast AQMD), acting by and through its Governing Board, and Ontario International Airport (ONT or Airport), acting by and through the Ontario International Airport Authority (OIAA) in its capacity as the proprietor and certificated operator of ONT. The Airport and South Coast AQMD shall be referred to collectively as Parties (each a Party) to this MOU.

I. RECITALS

A. RECITALS BY SOUTH COAST AQMD

1. Air Regulatory Agencies. Air pollution remains a significant public health concern in many parts of California, and specifically in the South Coast Air Basin (Basin). The South Coast AQMD, California Air Resources Board (CARB), and the United States Environmental Protection Agency (USEPA) are the regional, state, and federal regulatory agencies, respectively, with jurisdiction over air quality in the Basin. South Coast AQMD and CARB have developed and approved the 2016 Air Quality Management Plan (AQMP) for the Basin for incorporation into the California State Implementation Plan (SIP). The 2016 AQMP ~~has been submitted to USEPA and is pending its approval~~received approval by USEPA on October 1, 2019.

2. South Coast AQMD. The South Coast AQMD is the regional air pollution control agency primarily responsible for reducing air pollution in the Basin, which consists of the County of Orange, and the non-desert portions of the Counties of Los Angeles, Riverside, and San Bernardino. The ONT is located within the Basin.

3. Need for Emission Reductions. The Basin is classified as an extreme non-attainment area for the 1997 and 2008 8-hour ozone national ambient air quality standards (NAAQS) with statutory deadlines to reach attainment by 2023 and 2031, respectively. Despite significant air quality improvements achieved over the last several decades, to meet these standards, emissions of oxides of nitrogen (NOx) must be reduced by 45% in 2023 and 55% in 2031 as outlined in the 2016 AQMP, adopted by the South Coast AQMD Governing Board in March 2017. The 2016 AQMP included Control Measure MOB-04 (Emission Reductions at Commercial Airports), with the goal of achieving emission reductions from commercial airports through implementation of voluntary airport strategies.

4. Emissions from Sources at Commercial Airports. Emissions associated with operations at commercial airports contribute to adverse air quality in the Basin, primarily due to airport-related mobile source activities. These sources include aircraft, cargo trucks, ground support equipment (GSE), off-road vehicles, shuttle buses, and passenger vehicles. Therefore, NOx emission reductions from commercial airports can assist with the effort to attain the ozone standards in 2023 and 2031.

B. RECITALS BY ONT

1. Airport. The Ontario International Airport Authority is the proprietor and certificated operator of ONT.

2. Airport Obligations. ONT enters into this MOU pursuant to its proprietary and governmental powers and authority under the State Aeronautics Act (California Public Utilities Code Sections 21001, et seq.).

3. Management and Operation. The Air Quality Improvement Plan (AQIP) and this MOU reflect the experience of ONT in the management and operation of the Airport including extensive experience with the federal government, commercial aviation operators, general aviation operators and suppliers, the community, local public entities, and the residents of areas in the general vicinity of ONT.

4. Responsibility to Community. The MOU supports and is made in recognition of the importance of ONT to the economic health and well-being of the communities surrounding ONT and the importance of balancing the needs of the City of Ontario, County of San Bernardino and other surrounding communities for adequate commercial air transportation facilities with environmentally responsible air transportation operations at ONT.

5. Statement of Intent. ONT's consideration of the matters and issues referred to in this MOU is not intended as a statement that such matters and issues are the only ones considered by the Airport in connection with the formulation of the AQIP and this MOU. Rather this MOU reflects consideration by ONT of all of its state and federal obligations and responsibilities as the proprietor of the Airport and addresses only those emission sources that the Airport believes it can reasonably affect.

6. Air Quality Improvement Plan (AQIP). ONT has developed its own voluntary AQIP, with technical support provided by the South Coast AQMD. The AQIP represents the Airport's best efforts to develop programs and strategies for reducing NOx emissions from airport mobile source operations based on its existing authority over airport emission sources. The AQIP includes specific initiatives and measures for certain non-aircraft emission sources operating at the Airport.

7. Emissions Inventory. The AQIP includes the 2017 base year emissions inventory and 2023 and 2031 business as usual emissions forecast as well as the 2023 and 2031 forecasts that include the projected estimates of emissions benefits from voluntary airport AQIP measures with quantifiable emission reductions. The AQIP provides an emissions inventory only for non-aircraft airport sources for which the AQIP includes specific voluntary airport measures and initiatives (i.e., ground support equipment, fuel/delivery trucks, on-road and off-road airport fleet vehicles, shuttle buses, and passenger transportation). ONT has provided the AQIP with supporting calculations to the South Coast AQMD.

C. JOINT RECITALS

1. Purpose of MOU

The purpose of this MOU is to set forth how the Parties, consistent with their respective legal authorities, intend to quantify the emission reduction benefits in the Basin through the implementation of the voluntary airport strategies developed by ONT under the AQIP and MOU, and adopted by the OIAA on [**INSERT DATE**]. Attachment A, "MOU Schedule," sets forth the specific voluntary airport AQIP measures that are subject to the MOU. This MOU does not create SIP creditable reductions; rather, it identifies specific voluntary airport AQIP measures and provides the means for the South Coast AQMD to quantify the emission reductions from these voluntary airport AQIP measures to obtain SIP credits. The MOU is not intended to limit Airport growth. A central objective of the AQIP and MOU is to generate NOx reductions, and corresponding reductions of associated pollutants from non-aircraft airport mobile sources.

a. The MOU Schedule 1, specified in Attachment A, establish metrics for quantification of emission benefits associated with implementation of voluntary airport AQIP measures for each emissions source category consistent with the 2023 and 2031 dates for attainment of the ozone standards.

b. The Parties agree the MOU does not: i) Establish an emissions cap or any other facility-wide limit for NOx, or any other pollutant; ii) Obligate the Airport to provide a facility-wide inventory of NOx or VOC emissions; however, the parties agree to continue to work together in developing inventories of airport emission sources to support the development of future AQMPs outside of the AQIP/MOU process; or iii) Limit the Airport's ability to seek incentive or grant funding through federal, State and local programs, including but not limited to the FAA Voluntary Aviation Low Emissions (VALE) program and other similar programs, which require

emissions reductions achieved through such programs to be voluntary in nature and exceed existing obligations to achieve emissions reductions.

c. The emission reduction benefits from the voluntary airport AQIP measures in Attachment A may be used by South Coast AQMD to obtain SIP credit to the extent the emission reduction benefits quantified by South Coast AQMD for these measures satisfy USEPA's integrity elements (i.e., the emission reductions are quantifiable, surplus, permanent, and enforceable). South Coast AQMD may seek SIP credit for the quantified emission reductions through a separate SIP submittal.

d. The Parties agree that the South Coast AQMD, and not the Airport, will rectify any shortfall in prospective emission reductions from the voluntary airport AQIP measures specified in Attachment A.

e. The Parties specifically disavow any desire or intention to create any third-party beneficiary under this MOU, and specifically declare that no person or entity shall have any remedy or right of enforcement.

2. MOU Public Process

a. Following the adoption of the 2016 AQMP, South Coast AQMD staff held a series of public working group meetings to solicit comments on implementing Control Measure MOB-04 for commercial airports. Based on input received during the public process, South Coast AQMD staff developed a recommendation for the South Coast AQMD Governing Board for the development of an MOU with the commercial airports. In the event that the MOU approach with the airports was not successful, staff also recommended consideration of a regulatory approach for reducing emissions from commercial airports.

b. In May 2018, the South Coast AQMD Governing Board approved staff's recommendation and directed staff to pursue an MOU approach with the commercial airports to implement 2016 AQMP Control Measure MOB-04.

c. South Coast AQMD staff has established an MOU Working Group (WG), consisting of representatives from the South Coast AQMD, commercial airports (Los Angeles International Airport, John Wayne Airport, Ontario International Airport, Hollywood Burbank Airport, and Long Beach Airport), CARB, USEPA, environmental organizations, labor, freight industry, airlines, other stakeholders, and the public to solicit comments on the MOU development. South Coast AQMD staff will also monitor the implementation of this MOU and provide reports to USEPA. In addition, South Coast AQMD may utilize other well-established means of communication, including the South Coast AQMD website, Subscribers lists, and Governing Board and Committee meetings, for disseminating information concerning the status of MOU implementation.

d. The MOU is developed through the public process outlined above for consideration by the South Coast AQMD Governing Board and the Airport's Board.

3. MOU Applicability

a. The MOU (1) addresses only the voluntary Airport AQIP measures identified in Attachment A, and (2) does not supersede rules that are established by the USEPA or CARB, or legal, regulatory, or contractual obligations that the Airport is subject to such as U.S. Department of Transportation (USDOT) or Federal Aviation Administration (FAA) regulations; federal statutes, including the Anti-Head Tax Act (AHTA), the Federal Aviation Act, and the Airline Deregulation Act; international treaties; or the doctrines of federal preemption, the dormant Commerce Clause, and the Supremacy Clause.

b. Excluded Sources. Nothing in the AQIP or this MOU is intended or shall be interpreted to regulate or otherwise apply to (1) any source that is not specifically identified as a AQIP Source in Attachment A, including aircraft, inclusive of Auxiliary Power Units (APUs), aircraft engines or any other aircraft parts or systems, (2) the operation of any source that is not specifically identified as a AQIP Source in Attachment A, including aircraft, inclusive of APUs, aircraft engines, or any other aircraft parts or systems, either in flight or on the ground, including while taxiing or parked at an aircraft gate, remain-overnight (RON) position, maintenance facility, or any other airport location, or (3) any and all activities associated with General Aviation (GA) operations including aircraft, GA related GSE and vehicles and equipment. For purposes of the AQIP and this MOU, GA is defined as all civil aviation operations *except*: operations by 14 C.F.R. Part 121 commercial carriers, and regularly scheduled air services, defined as: (i) operated in support of, advertised, or otherwise made available to members of the public by any means for commercial air transportation purposes, and members of the public may travel or ship commercial cargo on the flights; (ii) the flights are scheduled to occur, or are represented as occurring (or available) at specified times and days; and (iii) the operator conducts, or proposes to operate, departures at ONT at a frequency greater than two (2) times per week during any consecutive three (3) week period.

II. NOW, THEREFORE, in consideration of the mutual interests and benefits of all parties to be derived from emissions reductions of NOx, and corresponding anticipated reductions of other pollutants, including VOC and PM, resulting from the implementation of the strategies identified in the voluntary AQIP, the Parties hereto agree as follows:

A. AIRPORT'S RESPONSIBILITIES

The OIAA or Airport agrees to take the following actions:

1. AQIP Implementation. Implement voluntary airport AQIP measures identified in Attachment A, Schedule 1.
2. Monitoring and Reporting. Monitor the implementation of voluntary airport AQIP measures and provide data and annual emissions inventory reports to South Coast AQMD as described in Attachment A, Schedule 1.
3. Incentives. Provide monetary or non-monetary incentives for non-aircraft airport mobile sources to the extent possible and as included in the AQIP. Nothing in this MOU requires the Airport to provide incentives.
4. Funding. Support grant funding efforts with potential funding sources that may provide funding for the voluntary airport AQIP measures, at ONT's discretion.

B. SOUTH COAST AQMD'S RESPONSIBILITIES

South Coast AQMD agrees to take the following actions:

1. Technical Analyses for SIP Credit from AQIP emission reductions. The South Coast AQMD will provide the necessary documentation and technical analysis with respect to the calculation of the emission reductions benefits attributable to the voluntary airport AQIP measures identified in Attachment A. This would include, but not be limited to, an analysis of the AQMP/SIP baseline for affected airport sources, emission reductions achieved through AQIP measures in Attachment A based on the AQIP inventories, and an estimation of emissions reductions benefits and corresponding SIP credits. Factors to be considered for purposes of calculating the emission reductions benefits attributable to the voluntary airport AQIP measures in Attachment A shall include, but not be limited to: growth forecasts from the airports, an implementation schedule for voluntary airport AQIP measures, the availability of funding for relevant incentives programs, and the technical and economic feasibility of specific voluntary airport AQIP measures.
2. Federal Enforceability. To the extent necessary to obtain SIP approval, the South Coast AQMD will provide federally enforceable commitments in a SIP update document that is separate from this MOU to the USEPA after approval by the South Coast AQMD and the CARB Boards. South Coast AQMD will monitor, assess, and report emission reductions benefits from the voluntary airport AQIP measures identified in Attachment A to the USEPA.
3. Responsibility for Shortfall. The South Coast AQMD shall be solely responsible to make up any emissions reduction shortfalls that may occur in the event that the actual voluntary airport AQIP emissions reduction benefits do not achieve the projected emissions reduction benefits resulting from implementation of the voluntary airport AQIP measures specified in Attachment A. South Coast

AQMD will also commit to adopt and submit substitute measures to USEPA to remedy any potential emission reduction shortfall associated with implementation of the AQIP measures identified in Attachment A. The Airport shall have no obligation(s) and/or requirement(s) to implement any substitute measures to remedy any potential emission reduction shortfall associated with implementation of the AQIP measures identified in Attachment A, unless otherwise mutually agreed on by both parties. Notwithstanding the above, ONT and South Coast AQMD agree that, in the event that the actual emission reductions associated with implementation of voluntary AQIP measures in Attachment A are less than the estimated emissions reduction benefits projected for implementation of these voluntary AQIP measures, ONT and South Coast AQMD will work together to consider potential new or enhanced programs, or better efforts to quantify existing programs, to help South Coast AQMD address any shortfalls.

4. Funding. The South Coast AQMD, at its Governing Board's discretion, will support grant funding efforts with potential funding sources that may provide funding for the voluntary airport AQIP measures.

5. Monitoring. The South Coast AQMD will monitor and assess the implementation of SIP creditable AQIP measures based on information provided by ONT as outlined in Schedule 1 in Attachment A.

6. Information Sharing. The South Coast AQMD will provide the means for ensuring that emission reduction data and other pertinent information related to the implementation of SIP creditable AQIP measures are fully accessible to the public and the USEPA.

C. MOU SCHEDULE

The voluntary airport AQIP measures for which the South Coast AQMD may quantify emission reductions and seek SIP credit through a separate SIP submittal is identified in Schedule 1 of Attachment A and is incorporated as part of this MOU:

1. MOU SCHEDULE NO. 1 - GROUND SUPPORT EQUIPMENT

The Schedule focuses on the voluntary airport AQIP measure and time frame aligned with the AQMP and SIP emission reduction target dates (i.e., 2023, 2031), and includes technical details pertinent to the equipment category such as:

- Metrics or performance targets
- Schedule for program implementation
- Annual reporting by the Airport to South Coast AQMD

Variations in the nature of information and data needed for each of the source measures may be addressed with focused and adaptive revisions to the individual

equipment category schedule and may be revised by mutual agreement of the Parties without modifying this MOU.

D. TERM OF MOU. This MOU shall be in full force and in effect when signed by all Parties following their respective required authorization processes. The initial term of this MOU shall expire on December 31, ~~2031~~ 2032 unless terminated earlier pursuant to Section II.E, below. Prior to expiration of this MOU, all Parties agree to meet to evaluate the need for continuing participation. If all Parties agree that continuing participation is desirable, they shall negotiate for their respective Boards' approval, a written extension of the term of this MOU, and any applicable additional MOU Schedules.

E. WITHDRAWAL AND EARLY TERMINATION. If any Party to this MOU determines that it wishes to no longer be a party to this MOU, then the Party shall provide notice to the other Party at least ninety (90) days in advance of the specified date of termination of the MOU. The Parties commit to work together to resolve any issues and negotiate an updated MOU at least thirty (30) days in advance of the specified date of termination of the MOU. If the Parties are unable to reach agreement, the MOU shall terminate on the date specified in the notification.

F. ENFORCEABILITY. The Parties agree to implement the provisions in the MOU. The parties agree that implementation of the measures specified in Attachment A is not to be construed as a regulation or requirement of the South Coast AQMD. In the event that any party fails to meet its commitment(s) or anticipates an inability to meet its commitment(s), the Party shall provide notice to the other Party within sixty (60) days of such determination and seek to negotiate a mutually agreeable solution within ninety (90) days of the date of the Notice. The Parties shall continue to comply with all other commitments under this MOU during the negotiations. Nothing contained in this paragraph is intended to limit any rights or remedies that the Parties may have under law. The Parties shall attempt in good faith to resolve any controversy that may arise out of or relating to this MOU. If a controversy or claim should arise that cannot be resolved informally by the respective staffs, executive level representatives of the Parties will meet at least once in person and, in addition, at least once in person or by telephone to attempt to resolve the matter. The Representatives will make every effort to meet as soon as reasonably possible at a mutually agreed time and place.

G. NOTICES. All notices that are required under this MOU shall be provided in the manner set forth herein, unless specified otherwise. Notice to a Party shall be delivered to the attention of the person listed below, or to such other person or persons as may hereafter be designated by that party in writing. Notice shall be in writing sent by U.S. Certified Mail, Return Receipt Requested, or a nationally recognized overnight courier service. Notice shall be deemed to be received when delivered (written receipt of delivery).

South Coast AQMD: South Coast Air Quality Management District

21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Assistant Deputy Executive Officer - Planning, Rule Development & Area Sources

ONTARIO INTERNATIONAL AIRPORT: Mr. Mark Thorpe
Chief Executive Officer
1923 E. Avion Street
Ontario, CA 91761

H. AVAILABLE FUNDING. Each Party shall be responsible for its respective costs associated with this MOU and acknowledges that the agreements contained herein by ~~any other Party~~the Parties are subject to the availability of appropriated funds. No Party will submit a claim for compensation to ~~any~~ the other Party, or otherwise seek reimbursement of costs from ~~any~~ the other Party, for activities carried out pursuant to this MOU.

I. FUTURE AGREEMENTS. This MOU does not restrict any future agreements between the Parties with respect to the subject matter stated herein or any other subject matter.

J. JOINT WORK PRODUCT. This MOU shall not be construed against the Party preparing the same, shall be construed without regard to the identity of the person who drafted such and shall be construed as if all Parties had jointly prepared this MOU and it shall be deemed their joint work product.

K. RECITALS. Each of the Recitals is incorporated into this MOU.

L. ENTIRE UNDERSTANDING. This MOU, including all attachments, constitutes the entire understanding between the Parties and supersedes all other agreements, oral or written, with respect to the subject matter herein. This MOU shall not be amended except in writing, signed by the Parties which expressly refers to this ~~contract~~MOU.

M. VENUE. This MOU shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this MOU shall be County of San Bernardino, California, USA.

N. SEVERABILITY. If a court of competent jurisdiction holds any provision of this MOU to be illegal, unenforceable, or invalid in whole or in part for any reason, the validity and enforceability of the remaining provisions, or portions of those provisions, will not be affected.

O. ATTORNEYS' FEES. In the event any action is filed in connection with the enforcement or interpretation of this MOU, each Party shall bear its own attorneys' fees and costs.

P. AUTHORITY. Except as expressly stated herein, nothing in this MOU shall be construed as a waiver of any Party's discretionary authority or deemed to restrict authority granted to any Party under law in any way with respect to future legislative, administrative, or other actions.

Q. VOLUNTARY AQIP. The Parties agree that the Airport's AQIP measures in Attachment A are voluntary and are not to be construed as a regulation or requirement of South Coast AQMD.

R. MOU Modification. This MOU may be subsequently modified at any time but no modification shall be valid or binding unless made in writing and signed by authorized representatives of both Parties.

S. COUNTERPARTS. The signature pages of this MOU are being executed in counterparts by authorized signatories of the Parties following the approvals by their respective public agency governing boards. When both Parties have signed, all executed counterparts taken together shall constitute one and the same instrument.

T. AUTHORIZED SIGNATURES. Each signatory of this MOU represents that s/he is authorized to execute on behalf of the Party for which s/he signs. Each Party represents that it has legal authority to enter into this MOU and to perform all obligations under this MOU.

U. NO ENFORCEMENT AGAINST THIRD PARTIES. The South Coast AQMD shall not seek to enforce the measures specified in Attachment A or any of the measures or new initiatives in the AQIP or any of its terms against ONT's tenants, concessionaries, third party licensees, vendor, or other relevant operators doing business at ONT facilities.

IN WITNESS WHEREOF, the Parties hereto have caused this Memorandum of Understanding to be executed by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	**ONTARIO INTERNATIONAL AIRPORT**
By _____	By _____
Name: Dr. William Burke	Name: Mr. Mark Thorpe
Title: Chairman, South Coast Governing Board	Title: Airport Director
Date: _____, 20___	Date: _____, 20___
Attest _____	Attest _____
Name:	Name:
Title:	Title:
APPROVED AS TO FORM:	APPROVED AS TO FORM:

Date: _____, 20___
BAYRON T. GILCHRIST,
General Counsel

By _____
Name:
Title:

Date: _____, 20___
Lori D. Ballance
General Counsel

By _____
Name:
Title:

ATTACHMENT A

MOU Schedule

MOU SCHEDULE NO. 1 – GROUND SUPPORT EQUIPMENT

This MOU Schedule No. 1 is based on ONT's AQIP measure for ground support equipment[1].

I. PROGRAM DESCRIPTION – Require that all ground support equipment associated with commercial operations achieve a fleet average NOx emission factors of 2.2 and 1.0 g/bhp-hr ~~in~~ by January 1 of 2023 and 2031, respectively.

II. PROGRAM TIMEFRAME - Upon execution through ~~2031~~2032.

III. AIRPORT AGREEMENTS – ONT agrees to the following:

A. Implement the measure by working with airport tenants to achieve the above performance targets by specified dates through accelerated turnover to cleaner equipment. ONT shall have complete discretion as to mechanisms used to implement this measure. Such mechanisms may include leases, licenses, operational requirements, or other agreements.

B. Beginning in 2021, and every year thereafter through ~~2031~~2032, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:

1. List of ground support equipment ~~as provided by airlines operating at ONT~~subject to GSE measure with the following information:

a. Equipment ID
b. Equipment type
c. Fuel type
d. Engine model year
e. Power rating (hp or kW)
f. Engine tier level (for diesel engines)
g. Annual activity data for non-zero emission equipment that is sufficient to determine emission reductions at a reasonable level of accuracy (i.e., actual operating hours from hour meter readings/maintenance records, average operating hours representative of equipment type and airport, or average operating hours by equipment/fuel type from CARB's OFFROAD model, if applicable)

[1] Ground Support Equipment or "GSE" is any vehicle or equipment used to support aircraft operations that is subject to, or included in compliance plans to meet, the requirements of the California Air Resources Board (CARB) In-Use Off-Road Diesel (ORD) Vehicle Regulation Program, CARB Off-Road Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation Program, or CARB Portable Equipment Registration Program and associated Portable Diesel Engine Airborne Toxic Control Measure. Furthermore, GSE as defined here only includes equipment that is not subject to compliance with SCAQMD Rule XX – RECLAIM, or included in a mobile source emission reduction credit program under SCAQMD Rule XVI.

2. For non-zero emission ground support equipment subject to this GSE measure, information regarding the sale or retirement of equipment available through CARB's DOORS system and, for pre-Tier 4 diesel, pre-2010 gasoline, or pre-2010 LPG ground support equipment relocated from ONT to another airport within the South Coast Air Basin, identify: a) the airport to which equipment is relocated, b) date of relocation, and c) estimated projected usage hours.

~~2.~~3. An annual emission inventory for all ground support equipment associated with commercial operations at ONT, including methodology and calculations.

IV. SOUTH COAST AQMD AGREEMENTS – South Coast AQMD agrees to the following:

A. Verify emission reductions from the implementation of this AQIP measure in order to determine actual emission reductions.

B. Ensure that any emission reduction data related to this AQIP measure and other pertinent information are accessible to the public and the USEPA.

Appendix B: SIP Credit Calculations

Introduction

Ground Support Equipment Measures

LAWA Alternative Fuel Vehicle Incentive Measure

LAWA Zero Emission Bus Measure

JWA Parking Shuttle Bus Electrification Measure

JWA Jet Fuel Delivery Trucks Measure

Burbank Shuttle Bus Electrification

1. Introduction

Commercial airports are a major part of transportation and economic infrastructure in the South Coast Basin (Basin) but they also contribute to the adverse air quality in the Basin. Non-aircraft mobile source emissions associated with airport operations are covered under the MOUs between the South Coast and the commercial airports. These sources include airport ground support equipment (GSE), shuttle buses, trucks, on-road and off-road airport fleet vehicles, and passenger vehicles. The emissions for these sources are included in their respective aggregate categories in the AQMP's emissions inventories and they are not explicitly identified as airport specific emissions.

For the purpose of the MOUs with South Coast AQMD, the five commercial airports (i.e., LAX, John Wayne Airport, Burbank Airport, Ontario Airport, and Long beach Airport) developed their own Air Quality Improvement Programs (AQIPs) or Air Quality Improvement Measures (AQIM). A suite of measures and initiatives are presented in the airports AQIPs or AQIM aimed at reducing emissions from non-aircraft airport operations. The specific AQIP or AQIM measures that are potentially eligible for SIP credit are identified in the MOUs with the five commercial airports, as indicated in Chapter 4. These measures cover GSE, heavy-duty vehicles and trucks, and shuttle buses. This appendix describes how SIP creditable emissions reductions are estimated from the specific AQIP or AQIM measures covered under the MOUs, as indicated in the following sections.

2. Ground Support Equipment Measures

The GSE emissions inventory included in the 2016 AQMP reflects regulations adopted as of November 2015. Specific regulations affecting GSE are described in Chapter 1, Regulatory Background section. The CARB's OFFROAD emissions model (and corresponding emission factors), which the AQMP's GSE emissions are based on, reflect the full implementation of CARB's existing regulations.

CARB began efforts in reducing emissions from GSE with an MOU with commercial airlines operating in the five commercial airports in the South Coast AQMD in 2002 (GSE MOU, https://ww3.arb.ca.gov/msprog/offroad/gse/gse-mou-final.pdf). The GSE MOU included provisions for the early introduction of clean units, with requirements for a 2.65 grams per brake-horsepower hour HC+NOx fleet average in the Basin by December 31, 2010. Other major provisions included the introduction of electric or zero-emission vehicles into the fleet and the use of diesel oxidation catalysts and diesel particulate filters to significantly reduce particulate matter emissions from the diesel portion of the fleet. Although the GSE MOU expired on January 1, 2006, its adoption resulted in an earlier start in reducing GSE emissions in the Basin than the rest of the state and generally cleaner GSE fleets in the South Coast AQMD airports compared to the statewide averages. Currently, GSE emissions are covered under several regulations administered by CARB targeting in-use GSE fleets. Those programs include in-use off-road diesel vehicle rule (https://ww2.arb.ca.gov/our-work/topics/construction-earthmoving-

equipment), off-road large spark-ignition (gasoline and LPG) equipment (https://ww3.arb.ca.gov/msprog/offroad/orspark/orspark.htm) and new off-road compression-ignition (diesel) engines and equipment (https://ww3.arb.ca.gov/msprog/offroad/orcomp/orcomp.htm)

The OFFROAD model used in developing the GSE emissions in the 2016 AQMP utilizes equipment registration data from the CARB off-road in-use regulations. Statewide equipment population, model year distributions, fuel types, horse-power rating combined with equipment use characteristics, such as annual operating hours and load factors were used to estimate statewide emissions. The statewide emissions are allocated to each county in the state based on the commercial aircraft operations in each county. Future year emissions were projected with growth factors combined with fleet averaged emissions factor requirements in the regulations. Table C-1 presents the GSE NOx emissions in the Basin in the 2016 AQMP in tons per year (tpy). The emissions are shown for the base year (2017) and future milestone years (2023 and 2031) consistent with the airports AQIP/AQIM base year and future years emissions inventories. Table C-2 presents the 2016 AQMP GSE emissions in the Basin by fuel type (i.e., diesel, gasoline, natural gas, and LPG). As shown in Table C-2, NOx emissions are mostly from diesel powered equipment.

The 2016 AQMP emissions inventory did not assign the GSE emissions to specific airports but, for the purpose of MOUs, assumptions were made to allocate the county level emissions to each commercial airport. Since there is only one commercial airport each in the Orange and San Bernardino Counties, the county level GSE emissions were assigned to the respective airports. For the three airports in the Los Angeles County (LAX, Burbank, Long Beach airports), the Federal Aviation Administration (FAA) terminal area forecast data (https://taf.faa.gov/) for the commercial aircraft operations was used to split the Los Angeles (LA) County GSE emissions among these three airports. Table C-3 presents the percentages of commercial aircraft operations among the three airports in LA County. The resulting airport specific GSE emissions by fuel type are presented in Table C-4. The future emissions inventories show significant declining trend due to the impact of existing regulations.

Table C-1. 2016 AQMP GSE NOx Emissions in the Basin (TPY)

Category	2017	2023	2031
Air Conditioner	6.05	1.85	1.11
Air Stand	32.04	16.62	6.49
Aircraft Tug	50.45	27.78	15.46
Baggage	51.84	24.98	19.80
Belt Loader	13.04	8.93	7.77
Bobtail	3.89	2.69	2.09
Cargo Loader	18.08	9.14	7.44
Cargo Truck	88.27	39.61	28.84
Cart	0.02	0.02	0.03
Catering Truck	20.48	9.32	4.42
Deicer	0.06	0.02	0.01
Forklift	14.80	9.82	5.84
Fuel Truck	1.76	0.84	0.32
Generator	136.79	69.52	26.96
Ground Power	93.94	48.93	18.37
Hydrant Truck	20.29	9.84	4.63
Lavatory Cart	0.02	0.02	0.02
Lavatory Truck	3.12	1.64	1.27
Lift	11.74	5.42	3.46
Maintenance. Truck	4.22	1.65	0.99
Other-C4	10.66	10.39	4.56
Other-GSE	44.81	23.75	18.95
Passenger Stand	2.39	1.08	0.53
Service Truck	28.58	13.10	6.28
Sweeper	0.68	0.42	0.28
Water Truck	0.42	0.18	0.07
All GSE	658.41	337.54	185.97

Table C-2. 2016 AQMP GSE NOx Emissions in the Basin by Fuel Type (TPY)

Fuel	2017	2023	2031
Natural Gas/LPG	35.31	22.50	10.68
Gasoline	171.97	87.70	59.18
Diesel	451.13	227.34	116.11
All Fuels	658.41	337.54	185.97

Table C-3. Commercial Aircraft Operations in the Los Angeles County *

Airport	2017		2023		2031	
LAX	681,578	(86.1%)	747,746	(85.7%)	872,191	(86.3%)
BUR	68,806	(8.7%)	83,472	(9.6%)	92,241	(9.1%)
LGB	41,102	(5.2%)	41,203	(4.7%)	45,652	(4.5%)
Total	791,486	(100.0%)	872,424	(100.0%)	1,010,084	(100.0%)

*Based on FAA Terminal Area Forecast, September, 2019**.** Percentage of each airport shown with respect to county total.

Table C-4. GSE NOx Emissions by Airport Based on 2016 AQMP (TPY)

Airport	2017				2023				2031			
	Diesel	**Gasoline**	**NG/LPG**	**Total**	**Diesel**	**Gasoline**	**NG/LPG**	**Total**	**Diesel**	**Gasoline**	**NG/LPG**	**Total**
LAX	319.7	126.7	25.9	472.3	160.4	64.2	16.4	241.0	82.6	43.7	7.8	134.1
BUR	32.3	12.8	2.6	47.7	18.0	7.2	1.8	27.0	8.7	4.6	0.8	14.1
LGB	19.3	7.7	1.6	28.5	8.8	3.5	0.9	13.2	4.3	2.3	0.4	7.0
SNA	35.3	10.8	2.3	48.4	17.8	5.6	1.5	24.8	9.1	3.7	0.7	13.5
ONT	44.5	14.0	3.0	61.4	22.4	7.2	1.9	31.5	11.4	4.9	0.9	17.2
Total	451.1	172.0	35.3	658.4	227.3	87.7	22.5	337.5	116.1	59.2	10.7	186.0

During the AQIP/AQIM development process, the airport authorities collected information on GSE equipment operated in their respective airports for 2017 and provided emissions inventories using the methodology employed to develop the 2016 AQMP inventories. The airport specific inventories for the 2017 and future year Business-As-Usual (BAU) scenarios showed lower emissions than the AQMP inventories due to high penetration of electric equipment in the airports located in the basin (except for Ontario Airport).

All five commercial airports have included a GSE measure in their AQIPs/AQIM and have committed to reduce emissions from GSE by achieving specific GSE performance targets for their GSE fleets. Table C-5 lists the GSE performance targets for the five airports. The performance targets reflect the unique mix of GSE fleet at each airport. The airports provided their estimates of future BAU emissions before implementation of their GSE measures, emission reductions from implementation of their GSE measures based on their respective performance targets (compared to BAU), and the remaining GSE emissions in 2023 and 2031, as shown in Tables C-6a and C-6b. Since the information on airport specific operating hours of each piece of GSE may not be available, the statewide average operating hours for each class of GSE from the OFFROAD model are used in estimating GSE emissions in all airports.

The potential SIP credits from the GSE measures for all airports except ONT are calculated based on the differences between the AQMP inventory and AQIP/AQIM emissions given in Tables C-6a and C-6b, since the same methodologies were used for calculating emissions in the AQMP and in the AQIP/AQIM. For the Ontario airport, the potential SIP credits are calculated by applying the percent reduction between BAU emissions and AQIP emissions to the AQMP emissions. The Ontario airport is the only exception in that its AQIP specific GSE emissions inventory is higher than the AQMP apportioned emissions from statewide emissions inventory. The Ontario airport has shown a wide range of growth and decline in aircraft operations in the past decades~~...~~. From 1990 through 2004, there were about 120,000 commercial aircraft operations annually in ONT. Starting on 2005, operations in ONT steadily decreased for almost a decade. There were 118,345 and 67,123 commercial operations in 2005 and 2014, respectively, and those started increasing in 2015. The number of operations in ONT in 2017 was 78,866. This fluctuation may have led to a larger number of GSE to accommodate its peak level aircraft operations over the last 10 years. The higher number of GSE in combination with the statewide average operating hours might have caused the overestimation of GSE emissions for ONT.

Table C-5. GSE Performance Targets by Airport
(NOx ~~or HC + NOx~~ g/bhp-hr)

Airport	2023	2031
~~LAX~~LAX[1]	1.8	1.0
BUR	1.~~92~~66	0.~~82~~74
LGB	0.93	0.44
SNA	1.7	0.9
ONT	2.2	1.0

[1] LAX uses a hydrocarbons +NOx combined emission factor.

Table C-6a~~,~~. 2023 NOx Emissions Benefits for GSE Measures (TPY)

Airport	BAU Emissions	AQIP Reductions	AQIP Emissions	AQMP Emissions	SIP Credits
LAX	150.69	56.17	94.32	241.03	146.71
BUR	17.46	0.65	16.81	27.00	10.19
LGB	13.23	0.93	12.30	13.22	0.92
SNA	15.07	4.80	10.27	24.80	14.53
ONT	91.10	22.66	68.44	31.49	7.83
Total					180.16

Table C-6b. 2031 NOx Emissions Benefits for GSE Measures (TPY)

Airport	BAU Emissions	AQIP Reductions	AQIP Emissions	AQMP Emissions	SIP Credits
LAX	121.31	86.16	35.15	134.09	98.94
BUR	16.72	8.65	8.07	14.14	6.07
LGB	10.54	4.04	6.50	6.99	0.49
SNA	9.98	3.92	6.06	13.52	7.46
ONT	79.84	46.03	33.81	17.22	9.93
Total					122.90

3. LAWA Alternative Fuel Vehicle Incentive Measure

Under its AQIM, LAWA has allocated $500,000 to incentivize replacement of 23 heavy duty vehicles/trucks with near zero emission (0.02 g/bhp-hr NOx standard) vehicles/trucks. The program is scheduled to be completed by 2021. LAWA has already selected 23 vehicles for awarding the incentive funding. The model years for the 23 vehicles range from 1999 to 2016, with GVWR of 14001 pounds or more, fueled with diesel, gasoline and natural gas, and with the combined total VMTs of 588,335 miles annually.

The emissions for the 23 existing vehicles (to be replaced) was estimated ~~using their~~assuming they are 2020 model~~-~~ year ~~and GVWR specific emission factors from EMFAC2014. By 2023, older~~ vehicles ~~among~~ /trucks as baseline for the ~~23 vehicles would need to be replaced with newer model year vehicles to comply with the existing regulations. Assuming 2022 model year replacement vehicles, the~~purpose of SIP credit calculation. The projected emissions for these vehicles were estimated to be 0.~~91~~51 tons per year in 2023 and ~~1.55~~0.77 tons per year in 2031 based on ~~EMFAC~~EMFAC2104 emission factors for ~~corresponding model years and vehicle classes~~2020model year vehicles/trucks for LA County and the VMTs provided by LAWA.

For each vehicle category, total NOx emissions were divided by total VMTs to obtain g/mile emission factors. These emission factors multiplied by annual VMT for each vehicle would yield annual emissions for each vehicle/truck. Refer to Attachment A for more details.The remaining emissions for the new near-zero emissions were calculated based on the ~~CARB~~CARB's Carl Moyer program guidelines (https://ww3.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf), which provide the near-zero vehicles NOx emission factors of 0.10 g/mile and 0.18 g/mile for vehicles with 14,001-33,000 pounds, and over 33,000 pounds GVWR, respectively. Deterioration rates are assumed to be of 0.005 g/mile per 10,000 miles for vehicles 14,001-33,000 pounds of GVWR and 0.004 for vehicles over 33,000 pounds of GVWR, respectively. Applying these emission factors and vehicles' respective annual miles, assuming they are in operation for 3.5 years by 2023 and 11.5 years by 2031, the 23 new vehicles would emit 0.12 and 0.25 tons of NOx annually in total in 2023 and 2031, respectively.

As a result, the potential SIP credit for the NOx emission reductions is expected to be 0.~~78~~39 tons per year in 2023 and ~~1.30 tons~~0.52tons per year in 2031, with an average emission reduction rate of ~~1.21~~0.60 g/mile in 2023 and ~~2.22~~0.80 g/mile in 2031. The emission calculations are summarized in Table C-7.

Table C-7. NOx Emissions Benefits for LAWA Alternative Fuel Vehicle Incentive Measure

	2023	2031
Total annual VMTs for replaced vehicles (million)	0.59	0.59
Emissions of existing vehicles (TPY)	0.~~29~~51	0.~~45~~77
Emissions of new near-zero vehicles (TPY)	0.12	0.25
SIP credits (TPY)	0.~~17~~39	0.~~21~~52

4. LAWA Zero Emission Bus Measure

LAWA's Clean Fleet Program – Zero-Emission Bus Program targets LAWA's own bus fleet to be 20% of zero emission vehicles by 2023 and 100% by 2031. LAWA's bus fleet accumulates 3.25 million miles annually. With the implementation of the program, it will eliminate exhaust emissions equivalent to 0.65 million miles of conventional buses in 2023 and 3.25 million miles in 2031. In the 2016 AQMP inventory, the urban bus emissions from the Basin portion of the Los Angeles County are 5.12 and 1.68, tons per day for 2023 and 2031, respectively and the corresponding VMTs are 514,000 and 431,000, respectively. The fleet average emission factors, defined as bus emissions divided by VMTs, are 8.95 g/mile and 3.49 g/mile, respectively for 2023 and 2031 using EMFAC 2014. Applying the average emission factor to the LAWA's shuttle bus VMT, the resulting SIP creditable emission reductions are 6.4 and 12.5 TPY for 2023 and 2031, respectively. In June, 2019, CARB adopted the Zero-Emission Airport Shuttle Regulation which requires airport shuttle fleets to be 33% zero-emissions by December 31, 2027 and 66% zero-emissions by December 2031. Taking this regulatory development into account, the SIP creditable emission reductions for 2031 should be adjusted by a factor of 0.67. Table C-8 summarizes this information and the corresponding emission benefits for this measure. The SIP creditable emission reductions are much higher than the estimates in LAWA's AQIM measure since the AQIM emissions were based on EMFAC 2017, while the 2016 AQMP was based on EMFAC 2014. The EMFAC 2017 introduced significant updates on urban bus emissions which resulted in lower emissions than its precedent EMFAC2014.

Table C-8. NOx Emissions Benefits for LAWA Zero Emission Bus Program

	2023	2031
Urban bus emissions for LA County in 2016 AQMP (tons per day)	5.12	1.68
Daily urban bus VMTs in LA County in 2016 AQMP (miles/day)	514,000	431,000
LA County urban bus emission factor in 2016 AQMP (g/mile)	8.95	3.49
Airport's bus fleet total annual VMT (million miles/year)	3.25	3.25
Annual VMT affected by the AQIM measure (million miles/year)	0.65	3.25
SIP Credits (TPY)	6.40	~~12.50~~8.25

5. JWA Parking Shuttle Bus Electrification Measure

JWA is operating a fleet of 12 shuttle buses and is proposing to convert ~~6~~a minimum of 50% of the buses to electric by 2023 and ~~10~~a minimum of 80% of the buses to electric by 2031.The estimated annual mileages for the bus fleet are 0.65 million in 2023 and 0.69 million in 2031.

Implementation of this measure will eliminate exhaust emissions equivalent to 0.33 million miles of conventional bus in 2023 and 0.57 million miles in 2031. In the 2016 AQMP inventory, the urban bus emissions from Orange County are 0.52 and 0.23 tons/day in 2023 and 2031, respectively. The corresponding VMTs are 126,000 and 124,000, respectively, which lead to the average NOx emission factor for the urban buses to be 3.74 g/mile and 1.68 g/mile in 2023 and 2031, respectively. Note this is based on EMFAC 2014, which was the platform to estimate on-road mobile source emissions in the 2016 AQMP. The resulting SIP creditable emission reductions are 1.34 and 1.06 TPY for 2023 and 2031, respectively. The SIP creditable emission reduction for 2031 needs to be adjusted due to the zero emission airport shuttle regulation with an adjustment factor of 0.60. Table C-9 summarizes this information and the corresponding emission benefits for this measure. The potential SIP creditable emission reductions are higher than the JWA estimate of the AQIP benefit because the AQIP benefit was developed based on EMFAC 2017, which has lower emission rates for urban buses than EMFAC 2014.

Table C-9. NOx Emissions Benefits for JWA Parking Shuttle Bus Electrification

	2023	2031
Urban bus emissions for Orange County in 2016 AQMP (tons per day)	0.52	0.23
Daily urban bus VMTs in Orange County in 2016 AQMP (miles/day)	126,000	124,000
Orange County urban bus emission factor (g/mile)	3.74	1.68
Airport's bus fleet total annual VMT (million miles/year)	0.65	0.69
Annual VMT affected by AQIP measure (million miles/year)	0.33	0.57
SIP Credits (tpy)	1.34	~~1.06~~0.64

6. JWA Jet Fuel Delivery Trucks Measure

JWA's Jet Fuel Delivery Trucks measure proposes to eliminate commercial jet fuel delivery trucks by installing a jet fuel pipeline. The construction is expected to be completed by the end of 2019, which will eliminate commercial aviation jet fuel delivery trucks from tank farms near the refineries to the airport. The project is expected to be fully operational by 2023. The eliminated heavy duty diesel truck (HHDT) VMTs are estimated at 633,632 annually for both 2023 and 2031. In the 2016 AQMP inventory, the Orange County HHDT NOx emissions are 2.74 and 2.64

tons per day for 2023 and 2031, respectively, with corresponding VMTs of 1,138,000 and 1,477,000. The SIP creditable emission factors are 2.18 and 1.62 g/mile for 2023 and 2031, respectively using EMFAC 2014. The resulting potential SIP creditable emission reductions are 1.52 and 1.13 TPY for 2023 and 2031, respectively, as shown in Table C-10.

Table C-10. NOx Emissions Benefits for JWA Jet Fuel Delivery Truck Measure

	2023	2031
HHDT NOx in Orange County in 2016 AQMP (tons per day)	2.72	2.64
HHDT daily VMT in Orange County in 2016 AQMP (miles/day)	1,138,000	1,477,000
Orange County HHDT emission factor (g/mile)	2.18	1.62
Airport's Fuel trucks total annual VMT (million miles/year)	0.63	0.63
Annual VMT Affected by AQIP measure (million miles/year)	0.63	0.63
SIP Credits (tpy)	1.52	1.13

7. Burbank Shuttle Bus Electrification

The Burbank airport operates a fleet of 13 passenger vans. It's estimated that the fleet accumulates 1.3 million miles annually. The airport is proposing to electrify 50% of its fleet by 2023 and 100 % by 2031. The emissions for this fleet are estimated using medium duty vehicle (MDV) emission factors. The measure would eliminate 0.65 million miles MDV NOx emissions in 2023 and 1.3 million miles in 2031. In the 2016 AQMP, the Los Angeles County MDV emissions are 4.39 and 2.01 tons per day for 2023 and 2031, respectively, with corresponding daily VMTs of 26,730 and 25,308. The SIP creditable emission factors are 0.15 and 0.07 g/mile for 2023 and 2031, respectively using EMFAC 2014. The resulting potential SIP creditable emission reductions are 0.11 and 0.10 TPY for 2023 and 2031, respectively, as shown in Table C-11. The SIP creditable emission reduction for 2031 needs to be adjusted due to the zero emission airport shuttle regulation with an adjustment factor of 0.67.

Table C-11. NOx Emissions Benefits for Burbank Airport Shuttle Electrification

	2023	2031
MDV NOx in LA County in 2016 AQMP (tons per day)	4.39	2.01
MDV daily VMT in LA County in 2016 AQMP (miles/day)	26,730	25,308
LA County MDV emission factor (g/mile)	0.15	0.07
Airport's shuttle fleet annual VMT (million miles/year)	1.30	1.30
Annual VMT Affected by AQIP measure (million miles/year)	0.65	1.30
SIP Credits (tpy)	0.11	0.~~10~~07

Attachment A

Methodology for Calculating Emission Reductions Achieved from the AQIP/AQIM Measures Specified in the MOUs with Commercial Airports

Under the MOUs with the five commercial airports, beginning in June 2021, the airports will provide annual reports to the South Coast AQMD on their progress in implementing the SIP creditable AQIP/AQIM measures specified in the MOUs. The annual reports will provide detailed equipment/vehicle data as well as annual emissions inventories for these measures. This attachment provides a description of methodologies for calculating emission reductions achieved based on the reported data from the airports and supplemental information provided by South Coast AQMD to calculate SIP credits.

A) GSE Measures

Annually, the airports will provide a list of GSEs subject to GSE measures to South Coast AQMD. The reported data will include equipment type, fuel type, engine model year, power rating, engine tier level, and activity data (annual operating hours) as specified in the MOUs. From the reported data, annual emissions will be calculated for each piece of equipment using the corresponding emission factors and load factors from the CARB's OFFROAD model. The summation of emissions from all reported GSEs from all airports will represent the emissions associated with the implementation of all GSE measures for all five airports each year. The difference between the 2016 AQMP inventory and the total GSE emissions calculated for all five airports would show the progress towards meeting the SIP credit associated with the GSE measures for 2023 and 2031. This 2016 AQMP GSE emissions inventory from 2020 to 2031 is shown in Table 1. In this table, the summer planning inventory values are presented. For GSE NOx emissions, the summer planning and annual average inventory values are the same.

Table 1. NOx Emissions from Airport Ground Support Equipment in 2016 AQMP Summer Planning Inventory (tons per day)

Year	NOx Emissions	Year	NOx Emissions
2020	1.287	2026	0.707
2021	1.152	2027	0.653
2022	1.027	2028	0.608
2023	0.925	2029	0.556
2024	0.842	2030	0.536
2025	0.769	2031	0.510

Emissions from an individual piece of GSE can be calculated using the following equation:

$$E_i = EF_i \times HP_i \times LF_i \times A_i \times U$$

Where:

E_i is mass emissions in any desired unit for equipment *i*

EF_i is emission factor in gram per brake-horse power hour for equipment *i*

HP_i is the equipment's horse power rating.

LF_i is the equipment's load factor (from CARB's OFFROAD model)

Ai is the equipment's annual operating hour.

U is a unit conversion factor for the desired mass emission unit.

Emission factor can be calculated using the following equation:

$EF_i = [EF_{zh} + (DR \times Accumulated\ Hours)] \times FCF$

Where:

EF_{zh} = Zero-hour emission factor in gram per brake-horse power hour for equipment *i* (from CARB's OFFROAD model)

DR = Deterioration rate (from CARB's OFFROAD model)

Accumulated Hours = Annual Hours x Age of Equipment (capped at 12,000 hours)

FCF = Fuel Correction Factor (from CARB's OFFROAD model).

Detailed information can be found in the following links to CARB's websites:
https://ww3.arb.ca.gov/regact/2010/offroadlsi10/offroadappd.pdf and
https://ww3.arb.ca.gov/msei/ordiesel/ordas_ef_fcf_2017_v7.xlsx

Example:

Calendar Year: 2022
Equipment Type: Diesel-Powered Aircraft Tug
Model Year: 2003
Engine Size: 265 horsepower (hp)
Annual Operating Hour: 301 hours/year
NOx EF_{zh} = 5.53 g/hp-hr
DR = 0.0001
FCF = 0.93
NOx Emission Factor EF_i = [5.53 + (0.0001 x 20 x 301)] x 0.93 = 5.70 g/hp-hr
Load Factor = 0.54
E_i (NOx Emissions) = 5.7 g/hp-hr x 0.54 x 265 hp x 301 hours/year = 245,517 g/year
It can be expressed as 0.27 tons/year, or 1.48 pounds/day

B) LAWA Alternative Fuel Vehicle Incentive Measure

LAWA will provide data for replaced trucks/vehicles and replacement trucks/vehicles including vehicle type, model year and annual mileage. The NOx emission factors in gram/mile for the replaced vehicles should be obtained from EMFAC2014 for the Los Angeles County. The emission factors of the replacement vehicles with specific engine model year and emission standard can be found from Tables D-1 and D-2 of the CARB Carl

Moyer Program Guideline at (https://ww3.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).

For example, for a Medium-Heavy Duty low-NOx replacement truck (14,001 – 33,000 lbs GVWR) meeting the 0.02 g/bhp-hr standard, its emission factor is 0.10 gram/mile with a deterioration rate of 0.005 g/mile per 10,000 miles. For a Heavy-Heavy Duty low-NOx replacement truck with GVWR greater than 33,000 lbs meeting the same standard, its emission factor would be 0.18 g/mile with a deterioration rate of 0.004 g/mile per 10,000 miles. The emission reduction for each replacement truck/vehicle can be calculated based on the following equation:

$E_i = \Delta EF_i \times VMT_i \times U$

Where:

E_i is mass emissions in any desired unit for replacement truck/vehicle i

ΔEF_i is the difference between the emission factors for the replaced and replacement vehicles, in gram/mile

VMT_i is annual VMT of the replacement vehicle (assume the same VMT for both replaced and replacement vehicles)

U is a unit conversion factor for the desired mass emission unit.

Example:

Replaced Truck: Medium-Heavy Duty Diesel Truck
Model Year: 2000
Vehicle Type: T6 Instate Heavy, Diesel
Replacement Year: 2020
Annual VMT: 17,255 miles/year
NOx EF: NOx Emissions / VMT
NOx Emissions in Los Angeles County: 22,012 gram (EMFAC 2014 2020 model year, T6 Instate Heavy category)
VMT in Los Angeles County: 27,861 miles (EMFAC2014 2020 model year, T6 Instate Heavy category)
NOx Emission Factor: 22,012/27,861 = 0.79 g/mile,

Replacement Truck: Near-Zero CNG truck that meets the 0.02 g/bhp-hr standard.
Model Year: 2020
Vehicle Type: T6 Instate Heavy, Diesel
Annual VMT: 17,255 miles/year
NOx Emission Factor: 0.1 g/mile + (0.005 g/mile x 1.0 year x 17,255 mile/year /10,000) = 0.109 g/mile
Emission Factor Difference: ΔEFi: 0.79 – 0.109 = 0.68 g/mile
Emission Reductions: 0.68 g/mile x 17,255 miles/year = 11,750 g/year or 0.013 ton/year

C) Shuttle Bus Electrification Measures

For the MOU measures for shuttle bus electrification, the emission reductions can be calculated as:

$E = EF \times VMT \times U$

Where

E is mass emissions in any desired unit

EF is EMFAC2014 emission factor in gram/mile. NOx emission factor is calculated by dividing total NOx emissions (County/vehicle specific) by the VMT of the corresponding vehicles (e.g., urban buses)

VMT is annual vehicle miles impacted by the MOU measures

U is a unit conversion factor for the desired mass emission unit.

Example:

Replacement Year: 2023, JWA Shuttle Buses
Fleet Information Base: Orange County, urban bus
Orange County Urban Bus NOx Emissions from EMFAC2014: 0.52 tons/day
Orange County Urban Bus VMT from EMFAC2014: 126,000 miles/day
NOx Emission Factor: 0.52 ton/day / 126,000 miles/day x 907184 g/ton = 3.74 g/mile
Annual VMT of the JWA Shuttle Bus Fleet: 649,000 miles/year
Electric Shuttle Bus Fleet VMT: 0.5 x 649,000 miles = 324,500 miles
Annual Emission Reduction: 3.74 g/mile x 324,500 miles/year =1,213,630 g/year or 1.34 tons/year.

D) JWA Jet Fuel Delivery Trucks Measure

For the JWA jet fuel delivery trucks measure, the emission reductions can be calculated as:

$E = EF \times VMT \times U$

Where

E is mass emissions in any desired unit

EF is EMFAC2014 emission factor in gram/mile. NOx emission factor is calculated by dividing total NOx emissions from the Orange County Heavy-Heavy Duty diesel trucks by the corresponding VMT

VMT is annual vehicle miles impacted by the MOU measure

U is a unit conversion factor for the desired mass emission unit.

Example:

Benefit Year: 2023
Fleet Information Base: Orange County, Heavy-Heavy Duty Diesel Truck (HHDT)
Orange County HHDT NOx Emissions from EMFAC2014: 2.74 tons/day
Orange County HHDT VMT from EMFAC2014: 1,138,000 miles/day
NOx Emission Factor: 2.74 ton/day / 1,138,000 miles/day x 907184 g/ton = 2.18 g/mile
Annual VMT of the JWA Fuel Delivery Trucks: 633,632 miles/year
Eliminated Fuel Delivery Truck VMT by the Measure: 633,632 miles/year
Annual Emission Reduction: 2.18 g/mile x 633,632 miles/year = 1,381,318 g/year or 1.52 tons/year.

Facility Based Mobile Source Measure for Commercial Airports

Mobile Source Committee

November 15, 2019

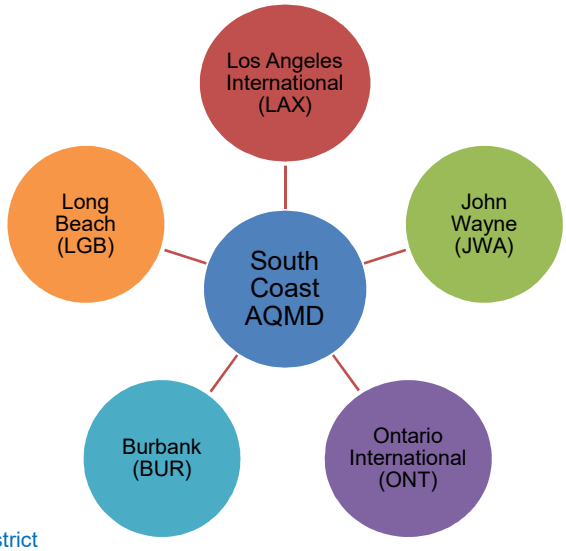
South Coast
Air Quality Management District

Background

- 2016 AQMP Facility-Based Mobile Source Measures
  - Control Measure MOB-04, Emission Reductions at Commercial Airports
- Board direction in May 2018
  - Voluntary MOU approach for commercial airports
  - MOUs based on airports' air quality improvement plans/measures (AQIP/AQIM)
    - Non-aircraft emission sources

South Coast
Air Quality Management District

Draft MOUs developed for five commercial airports



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3

MOU commitments

Airports

- Implement AQIP/AQIM measures included in MOUs
- Annual reporting to South Coast AQMD on implementation of AQIP/AQIM measures
  - Equipment/vehicle data
  - Emission benefit calculations

South Coast AQMD

- Quantify SIP creditable emission reductions for AQIP/AQIM measures (2023, 2031)
- Provide federally enforceable commitments and report emission reduction benefits to U.S. EPA
- Establish metrics to track implementation progress
- Process to cover potential shortfall
- Provide public access and disclosure

South Coast
Air Quality Management District

4

MOU measures eligible for SIP credit

- Ground Support Equipment (GSE) Performance Targets by Airport (NOx fleet average emissions rate in g/bhp-hr)

Airport	2023	2031
JWA	1.7	0.9
LAX[1]	1.8	1.0
LGB	0.93	0.44
ONT	2.2	1.0
BUR	1.66	0.74

[1] Hydrocarbons + NOx combined emission factor

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Air Quality Management District

MOU measures eligible for SIP credit (cont'd)

- Shuttle Bus Electrification Measures

	2023	2031
LAX – Zero Emission Bus Program	20%	100%
JWA- Parking Shuttle Bus Electrification	50%	80%
BUR- Zero-Emission Shuttle Bus Program	50%	100%

South Coast
Air Quality Management District

AQIP/AQIM measures eligible for SIP credit (cont'd)

- LAX
  - Alternative Fuel Vehicle Incentive Program: Implement an incentive program to distribute up to $500,000 dollars in funding to assist the purchase of zero or near-zero emission vehicles by December 31, 2021
- JWA
  - Jet Fuel Delivery Trucks: Install a jet fuel pipeline to eliminate routine commercial passenger jet fuel delivery trucks by 2023

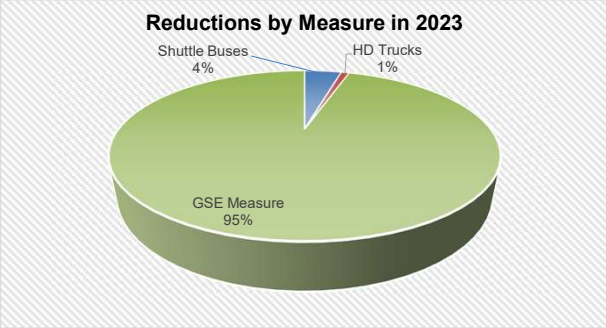
South Coast Air Quality Management District

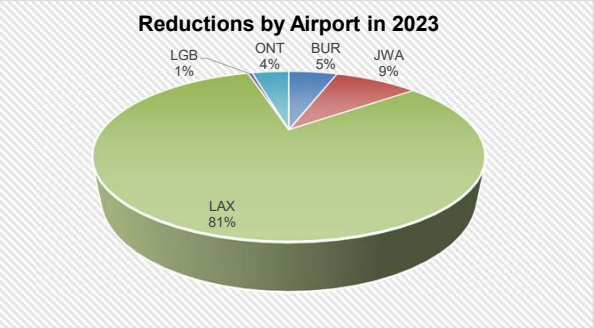
Total potential NOx SIP emission reductions for MOU measures

	2023 (tons per day)	2031 (tons per day)
SIP Creditable Emission Reductions	0.52	0.36

South Coast Air Quality Management District

Potential NOx reductions in 2023





Total NOx Reductions = 190.7 tons per year

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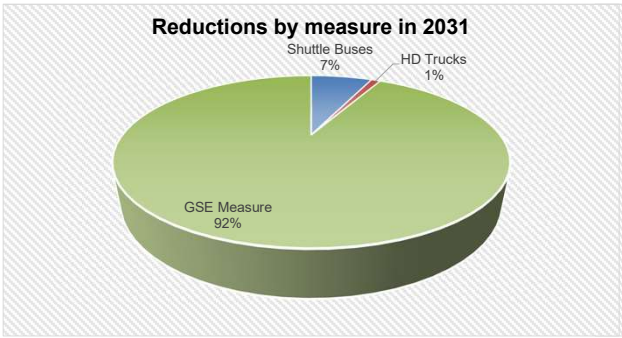
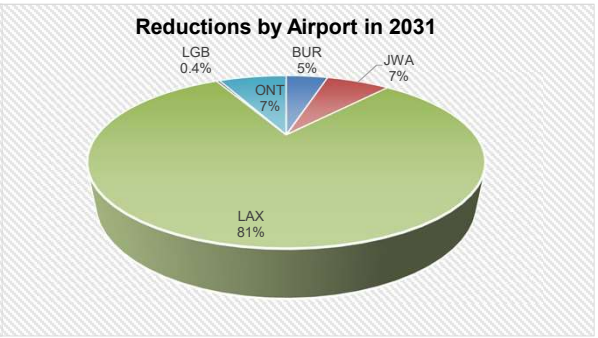
Potential NOx reductions in 2031





Total NOx Reductions = 133.2 tons per year

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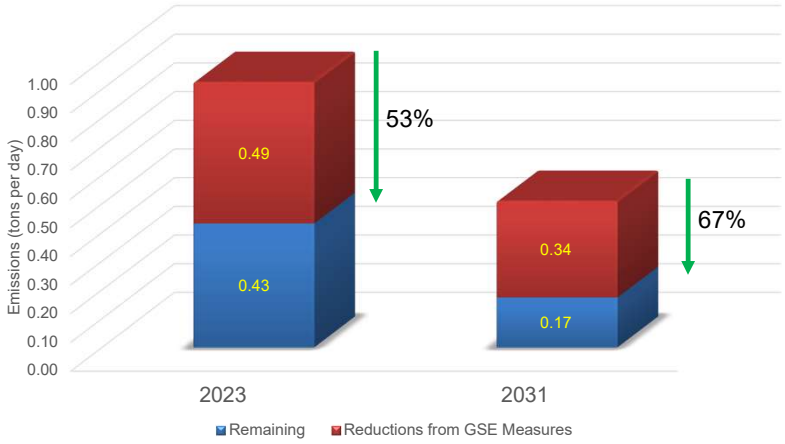
NOx Reductions from MOU GSE measures



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Air Quality Management District

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South Coast AQMD's enforceable commitment

- Achieve 0.52 and 0.36 tpd NOx reductions in 2023 and 2031, respectively
- Track the implementation of MOU measures based on airports' annual reports
- Report to EPA on:
  - Implementation of SIP creditable MOU measures and actual emission reductions achieved; and
  - Make each report and relevant data publicly available
- Through a public process, adopt and submit substitute measures to EPA in the event of any emission reduction shortfall

South Coast
Air Quality Management District

Public process to develop draft MOUs

LAX

JWA

BUR

ONT

LGB

- Airports MOU working group meetings
- Updates to Mobile Source Committee
  - Feb 15, Sep 20, Oct 18, and Nov 15, 2019
- Public Consultation Meeting – October 10, 2019
- MOUs being considered for approval by respective airport authority
- Each MOU subject to approval by South Coast AQMD Board

Public comments

- Annual operating data for GSE equipment
  - *Added new MOU language to allow options based on data availability*
- Replaced GSE equipment
  - *Added new MOU language to require reporting for equipment retired, sold, and relocated with the Basin*
- Emissions benefit/SIP credit calculations
  - *Provided clarifications in responses to comments*
- Infrastructure needs for GSE
  - *Airports and airport tenants have agreed to airport-wide performance targets; required Infrastructure to be coordinated between airports and airport tenants*

Public comments (cont'd)

- Modest reductions (0.52 tpd in 2023 and 0.36 tpd in 2031)
  - *Majority of reductions come from GSE*
    - *Reductions from GSE are significant (53% in 2023, 66% in 2031)*
  - *Cargo trucks serving the airports to be addressed under proposed ISR for warehouses*
- Process for addressing potential shortfall
  - *Potential reduction shortfalls to be determined based on the annual reports from the airports*
  - *Substitute measures to be developed through public process*

Staff recommendations for December Board meeting

1. Determine that the Facility-Based Mobile Source Measure for Commercial Airports is exempt from the requirements of California Environmental Quality Act;
2. Approve the MOUs with each of the five commercial airports;
3. Approve South Coast AQMD's enforceable commitment; and
4. Direct the Executive Officer to submit South Coast AQMD's enforceable commitment to CARB for its approval and subsequent submittal to the U.S. EPA for inclusion into California SIP.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Final Contingency Measure Plan

Planning for Attainment of the 1997 80 ppb 8-Hour Ozone Standard in the South Coast Air Basin

November 2019

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Planning, Rule Development, and Area Sources
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Planning, Rule Development, and Area Sources
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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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Governor's Appointee

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WAYNE NASTRI

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EXECUTIVE SUMMARY

The South Coast Air Basin (Basin) has faced poor air quality dating back over eight decades. The first recognized episodes of photochemical smog (ozone) occurred in Los Angeles in the summer of 1943 with visibility reduced to only three blocks. With a booming industry and growing economy, the region continued to experience significant levels of air pollution. Increasing awareness of the impacts of air pollution on human health and the environment led to the development of air pollution control laws in California and at the federal level, culminating in the federal Clean Air Act (Act or CAA). As a result of California and federal requirements, aggressive air pollution control programs have been put in place that have drastically improved the air quality in the Basin despite significant increases in population and vehicles. Since the 1950s, the maximum levels of ozone have decreased by 75% while the population and the number of vehicles have increased by three and four fold, respectively. Incidents of Stage I smog alerts, which used to occur 100-120 times a year, have been eliminated. Ozone levels sufficient to trigger Stage II smog alerts levels have not occurred since the 1980s. Also, the National Ambient Air Quality Standards (NAAQS) for Carbon Monoxide (CO), Nitrogen Dioxide (NO2) and Particulate Matter less than 10 microns (PM10) have all been achieved in the Basin.

Because of these air quality challenges, the greater Los Angeles region has been at the forefront of air pollution science and research, low- and zero-emissions technology development, and innovative air quality regulations and programs. Significant advancements have been achieved in both stationary and mobile source control technologies for reducing emissions. Despite these efforts and the corresponding substantial improvements in air quality that we have achieved, the health of our residents continues to be seriously affected by the poor air quality. The region's unique topography and meteorology coupled with emissions from millions of vehicles and engines, including those associated with the thriving goods movement industry, continue to produce the worst ozone pollution in the nation. Further, new scientific information on the health impacts of air pollution has led to progressively more stringent ozone standards which present a significant challenge for the region to attain.

In 1997, U.S. EPA set a new health protective 8-hour ozone standard (standard) at 80 parts per billion (ppb), replacing the previous 1-hour ozone standard. U.S. EPA designated the Basin as Extreme nonattainment for this standard. In 2007, the South Coast AQMD's 2007 Air Quality Management Plan (AQMP) outlined a detailed path for the area to attain this standard by the CAA deadline of June 2024 (emission reductions must occur in 2023). As part of this attainment strategy, the 2007 AQMP relied on a provision in the Act, section 182(e)(5), that allows areas classified as Extreme nonattainment to include emissions reductions from measures that anticipate reductions from future advanced technologies. When this provision is relied upon to demonstrate attainment, the area must make an enforceable commitment to submit contingency measures to U.S. EPA three years before the reductions are needed to attain the standard. In this submittal, the State must demonstrate that the assumed reductions from future technology were

already achieved, or if not, the State must submit contingency measures capable of achieving the remaining emission reductions. This Contingency Measure Plan is intended to meet that requirement.

While ozone forms in the atmosphere from a photochemical reaction of NOx and VOCs, NOx is the key pollutant that must be controlled to reach attainment in our region. NOx is typically formed as a byproduct of combustion processes – such as those in power plants, boilers, and engines. As we have implemented increasingly more stringent requirements on stationary sources to control NOx emissions, emissions from mobile sources – such as trucks, locomotives, ships and planes – have grown to dominate NOx emissions. Today, over 80% of the NOx emissions in our region are from mobile sources. Figure ES-1 illustrates the great progress that California Air Resource Board (CARB) and South Coast AQMD have made in reducing NOx emissions since the standard was set in 1997. Since that time, NOx emissions have been reduced by 76% through CARB and South Coast AQMD's regulations and programs.

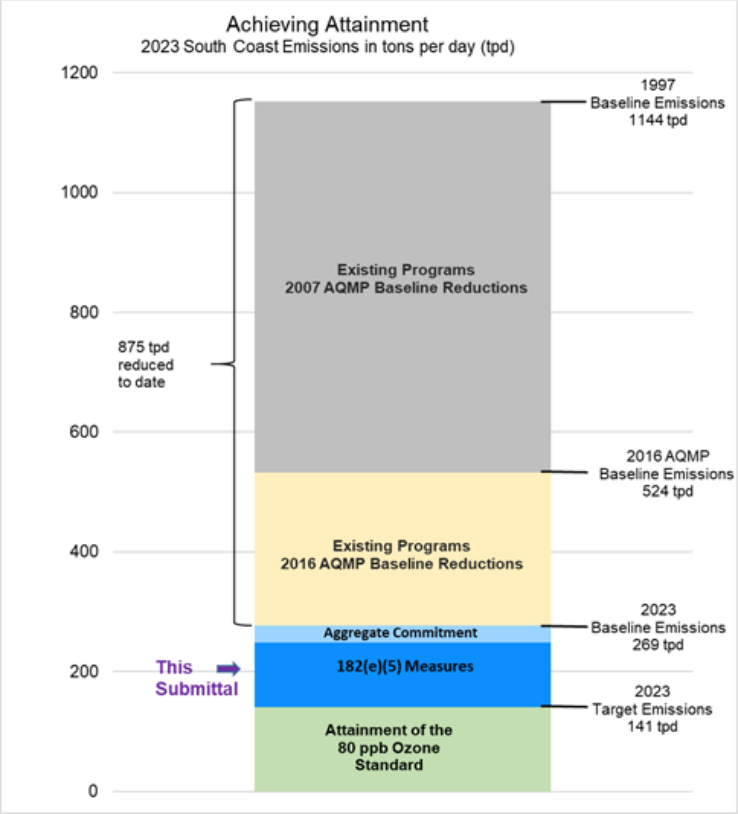

Figure ES-1: NOx Emission Reductions, Commitments and Requirements in the South Coast Air Basin

In the 2016 AQMP, the South Coast AQMD updated its attainment demonstration to achieve the 1997 standard in 2023. While this new attainment demonstration still relies on the section 182(e)(5)'s future technology provision, the reductions needed from this provision are dramatically reduced – from 241 tons per day (tpd) NOx in the 2007 AQMP, to 108 tpd of NOx

in the 2016 AQMP. The 2007 AQMP's reliance on section 182(e)(5) was necessary at that time as new technologies were in their earliest stages of development, and some technologies were not yet foreseen. However, in the 2016 AQMP, the types of advanced technologies needed to achieve attainment were identified and were either already commercially available or were to be available by 2023. The main challenge was to rapidly turn over vehicle and engine fleets to these new technologies. An additional obstacle for California exists since many of the older vehicles and engines that need to be replaced are subject to federal, not state regulatory authority and therefore require federal action to provide these reductions. In Figure ES-1, the 108 tpd NOx emissions reductions that are remaining for section 182(e)(5) provisions and which are addressed in this draft Contingency Measure Plan are represented by the darker blue section.

This draft Contingency Measure Plan represents a joint strategy by South Coast AQMD and CARB for achieving the 108 tpd of NOx reductions allocated to section 182(e)(5) measures needed to attain the 1997 8-hour ozone standard. Achieving the standard by 2023 represents a tremendous challenge for the South Coast region - especially given the meteorological factors in the region conducive to poor air quality - and will require significant deployment of near-zero and zero-emission technologies and substantial levels of incentive funding to accelerate turnover to these cleaner technologies. While California and South Coast AQMD continue to implement their ongoing efforts, federal actions and measures are absolutely critical for meeting this standard. Without significant reductions from federal sources, we will be unable to attain the 1997 ozone standard in 2023.

The Contingency Measure Plan includes: 1) newly identified emission reduction strategies; 2) additional incentive funding to transition to the cleanest available technologies; and 3) significant federal action and/or funding to achieve the required reductions from sources under federal responsibility.

South Coast AQMD and CARB have Identified New Strategies

To develop this plan, CARB and the South Coast AQMD have re-evaluated the sources of emissions in the Basin and developed further strategies to reduce emissions. Those strategies are reflected in this document as newly identified strategies. There are two types of newly identified strategies: Identified Emission Reduction Strategies shown in Table ES-1, and Innovative New Measures listed in Table ES-2.

The Identified Emission Reductions Strategies represent a next round of regulations and programs that both agencies are working toward in implementing the 2016 AQMP. These are efforts that have been adopted or are soon-to-be-adopted since adoption of the 2016 AQMP, but for which emission reductions were not included in the 2016 AQMP. The Innovative New Measures represent the next step of pushing the envelope to achieve more reductions at the State level. CARB continues to seek out new and innovative opportunities for emission reductions.

Table ES-1: Identified Emission Reduction Strategies

Measures Description	Agency	NOx Reductions (tpd)
RECLAIM BARCT Rules	South Coast AQMD	2
Ports MOU	South Coast AQMD	3.2 – 5.2
Airports MOU	South Coast AQMD	0.5
Metrolink Locomotives	South Coast AQMD	3
Funding Incentives (Expected Future Funding)	South Coast AQMD	1.5
Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation	CARB	1.7
ATCM for Portable Engines, and the Statewide Portable Equipment Registration Program	CARB	0.25
HD Inspection and Maintenance (I/M) Program	CARB	4.2
Innovative New Measures	CARB	3.0
Total Reductions Towards 182(e)(5) Commitment*		**24-26 tpd**

** Estimated reductions including 4.2 tpd of reductions associated with updated OGV emissions inventory and CARB's SIP Strategy for OGV.*

Table ES-2: CARB's Innovative New Measures

Measures	NOx Reductions (tpd)
Tier 5 Off-Road Diesel Engine Standard	3.0
State Green Contracting	
Reduction in Growth of Single-Occupancy Vehicle Travel	
Locomotive Emission Reduction Measure	
VMT and Land Conservation	
Regional VMT Reductions	
Co-benefits from Electrification of Buildings due to 2017 Climate Change Scoping Plan	

Additional Sources of Funding

Since the inception of the Carl Moyer Program over 20 years ago, over $2 billion of incentive funding has been spent in the South Coast region to accelerate the introduction of cleaner mobile and stationary source technologies. The role of incentive funding has been critical to provide the

appropriate market signals to advance the development of these cleaner technologies into full commercialization. Based on the analysis in the 2016 AQMP, over $1 billion of additional incentive funding is required per year over 14 years to achieve the needed reductions to meet the ozone standards in the Basin in 2023 and 2031. Since the adoption of the 2016 AQMP, South Coast AQMD has been aggressively pursuing new sources of funding. These efforts have led to an approximate doubling of incentive funding, now roughly between $200-300 million per year. However, this has not been enough to meet the 2016 AQMP funding goals, and several years have been lost. Based on South Coast AQMD's preliminary analysis, an additional 15 tpd of NOx reductions could be achieved in 2023 from continuing efforts to secure additional funding.

A Call for Action

California and South Coast AQMD have pushed advances in clean technology, innovative regulations, and incentive programs to adopt the most comprehensive, aggressive, and successful strategy to reduce emissions from mobile sources in the nation. As a direct result of California's programs, NOx emissions from those mobile sources under California's authority have decreased by approximately 83 percent since 2000, as shown in Figure ES-2. California will be able to achieve a significant amount of the last portion of reductions needed to reach attainment in 2023. However, to achieve all of the reductions necessary to reach attainment, the State, South Coast AQMD and the federal government will need to work together with all stakeholders to drastically lower emissions to achieve the needed reductions.

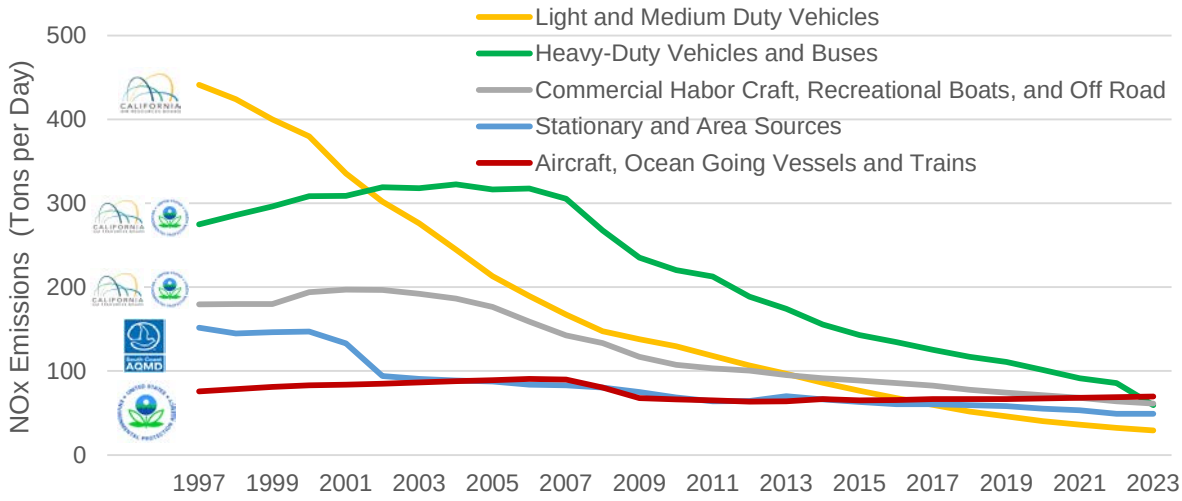

Figure ES-2: Progress in Reducing South Coast NOx Emissions by Agency

California relies on U.S. EPA to lower emissions from sources that the federal government alone has the authority to regulate. Historically, NOx emissions from federally regulated sources were a relatively small portion of the total NOx inventory. For example, in 2000, emissions from interstate trucks, aircraft, trains, ocean-going vessels, and some off-road engines together made

up approximately 20 percent of California's total NOx inventory. While California adopted programs to lower NOx emissions from the mobile sources under California's control, U.S. EPA has not kept pace in reducing NOx emissions from sources under federal control. As a result, those same federal sources are today responsible for 33 percent of NOx emissions in the South Coast in 2019, and that percentage is projected to continue to rise. Similarly, while total NOx emissions have decreased in South Coast by nearly 70 percent from 1997, NOx emissions from federal sources outside of California's control have only decreased by 15 percent since 1997, and are projected to increase in the future without federal action.

As California and the South Coast AQMD continue to pursue the cleanest technologies and adopt the most stringent regulations and programs in the nation, federal action is critical for meeting this standard. As Figure ES-2 shows, aircraft, ocean going vessels, and trains' total emissions have been almost flat and will be slightly increased in the future. Absent federal action, these emissions will continue to increase, as shown in Figure ES-3. To the extent that U.S. EPA fails to act on federal sources that are beyond California's regulatory control, California would need to achieve reductions from these sources through voluntary incentive programs. The funding needed to achieve the necessary reductions dramatically exceeds current resources. Given that these sources are under federal authority and thus, federal responsibility, significant levels of federal incentive funding to reduce emissions from federal sources, and/or federal regulatory actions to achieve the remaining level of reductions is necessary for attainment in 2023.

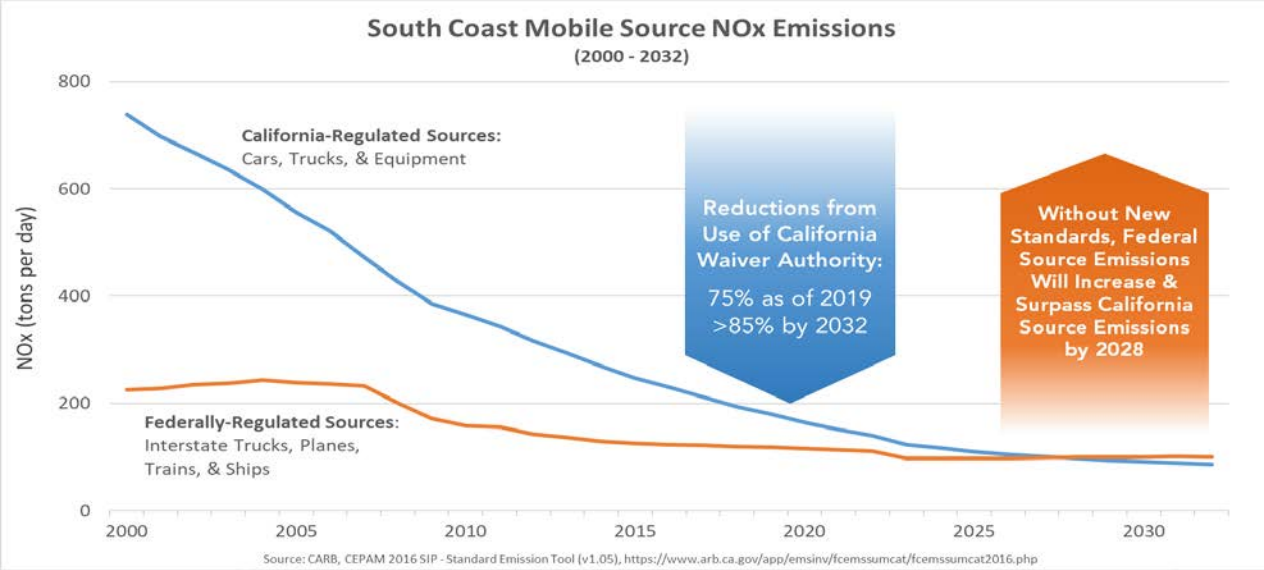

Figure ES-3: Federal Sources Overtake State Sources in the Future

1. BACKGROUND AND ACHIEVING ATTAINMENT OF THE 80 PPB STANDARD

a. Progress toward Attainment of the 1997 8-Hour Ozone Standard

In 1979, the U.S. EPA established primary and secondary national ambient air quality standards (NAAQS or standards) for ozone at 0.12 parts per million (ppm) averaged over a 1-hour period. The South Coast Air Basin was classified as an "extreme" nonattainment area[1] and, in 1990, was given an attainment deadline of November 15, 2010.

On July 18, 1997, the U.S. EPA revised the primary and secondary standards for ozone to 0.08 ppm, averaged over an 8-hour period ("1997 8-hour ozone standards"), and revoked the 1-hour ozone standard. U.S. EPA guidance on the revoked 1-hour ozone standard indicated that although the standard was revoked, certain planning requirements, known as anti-backsliding requirements, remained in effect. The Basin was classified as Severe 17 for the new 8-hour standard with an attainment date of June 2021. Due to challenges in attaining the 8-hour ozone standard, as permitted by the Clean Air Act, South Coast AQMD requested a voluntary re-designation of the Basin to "Extreme," with a new attainment date of June 15, 2024.

U.S. EPA revoked the 1997 8-hour ozone standard (0.08 ppm) in 2008, and promulgated the 2008 8-hour ozone NAAQS (0.075 ppm). Then in 2015, EPA revised the 8-hour standard to 0.070 ppm, effective December 2015. The South Coast Air Basin is classified as an Extreme nonattainment area for all three 8-hour ozone standards and has 20 years to attain each standard from the effective date of the final designation for each standard. Table 1-1 summarizes the attainment date and the attainment status for each of the federal ozone air quality standards for South Coast Air Basin.

Table 1-1
Attainment Status of the Federal Ozone Air Quality Standards of the South Coast Air Basin

Criteria Pollutant	Averaging Time	Designation	Attainment Date
Ozone (O_3)	(1979) 1-Hour (0.12 ppm)	Nonattainment (Extreme)	2/6/2023
	(1997) 8-Hour (0.08 ppm)	Nonattainment (Extreme)	6/15/2024
	(2008) 8-Hour (0.075 ppm)	Nonattainment (Extreme)	7/20/2032
	(2015) 8-Hour (0.070 ppm)	Nonattainment (Extreme)	8/3/2038

[1] U.S. EPA classifies ozone nonattainment areas in one of five different categories (marginal, moderate, serious, severe, and extreme) depending on how much the levels of ozone in the area exceed the standard. The "extreme" category is for the worst levels of ozone pollution.

Air quality in the South Coast Air Basin has improved significantly over many decades. Figure 1-1 shows the trend of the 8-hour ozone design value in the Basin from 1997 to 2018.[2] Consistent with the individual NAAQS, design values are typically used to designate and classify nonattainment areas, as well as to assess progress towards meeting the NAAQS. The 8-hour ozone design value is a three-year average of the 98th percentile highest value (4th highest daily maximum of 8-hour-average concentrations). While the ozone concentration in the Basin shows a steadily decreasing trend, year-to-year fluctuations are noticeable. This is mostly due to meteorological conditions, such as temperature, precipitation, and humidity, which affect the chemistry, mixing and transport of ozone and its chemical precursors. Global scale atmospheric dynamics such as El Nino or La Nina affect the Basin level air quality as well, since the global scale circulation patterns bring anomalous weather patterns such as above-average precipitation, stagnant conditions, or stronger subsidence that can either improve air quality or enhance pollution. The unusually high ozone concentrations observed in the 2016 to 2018 period were likely attributable to meteorological abnormalities that triggered excessive photochemical production of ozone and prolonged stagnation of air pollution. South Coast AQMD is currently conducting a study to analyze meteorological factors and trends to explain the poor air quality observed in the recent years despite continuing and demonstrable reductions in emissions.

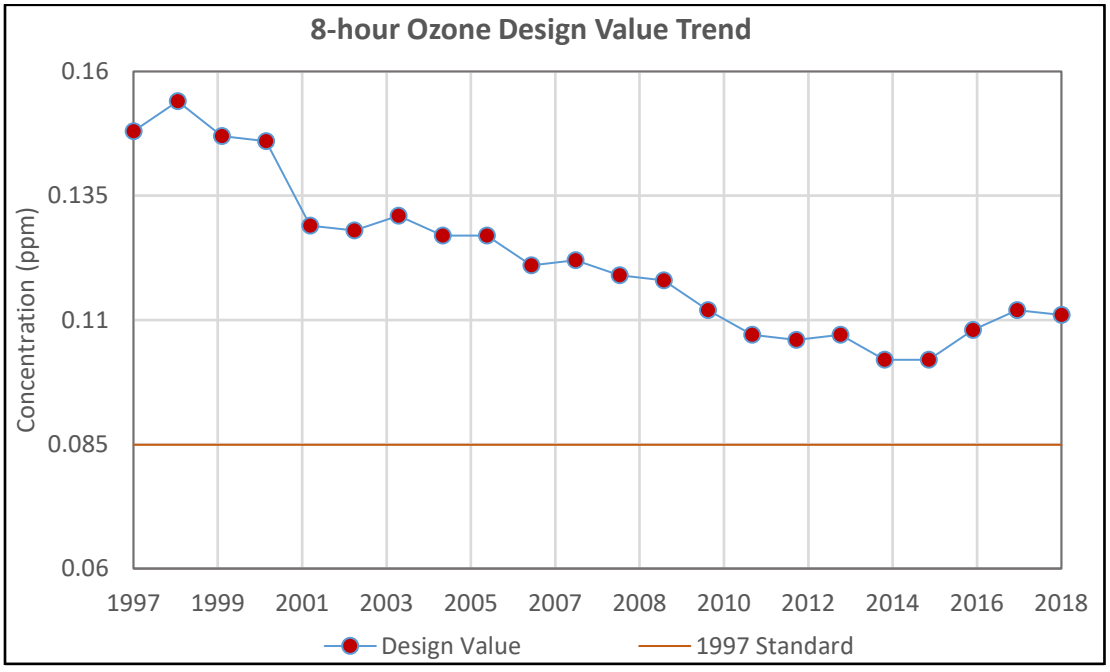

Figure 1-1
The 8-hour ozone design value in the South Coast Air Basin

[2] A design value is a statistic that describes the air quality status of a given location relative to the level of the NAAQS.

The progress in reducing ambient ozone concentrations is due to the reduction of ozone precursor pollutants in the past several decades. Ozone is a secondary air pollutant; ozone is not emitted directly from human activities or natural sources, but is chemically produced in the atmosphere. Emissions of NOx and VOC react in the presence of ultraviolet light to form ozone. Figure 1-2 illustrates the Basin's total emissions of NOx and VOC from anthropogenic sources. NOx and VOC emissions have decreased by 70% and 75%, respectively, from 1995 to 2018 and are expected to continue the trend in the future years due to continuing implementation of existing and upcoming regulations. Measured ambient nitrogen dioxide (NO_2) concentrations provide further evidence regarding the decrease in NOx emissions. An analysis of monitoring data between 1995 and 2018 (Figure 1-3) indicates that ambient NO_2 levels have been reduced by over 60%, similar to the emission reductions indicated in Figure 1-2.

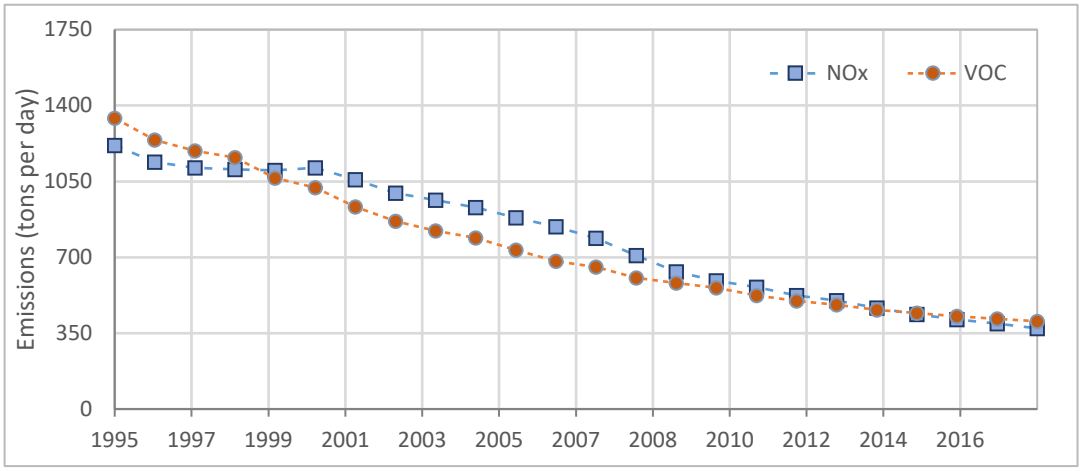

Figure 1-2
Basin Total NOx and VOC emissions

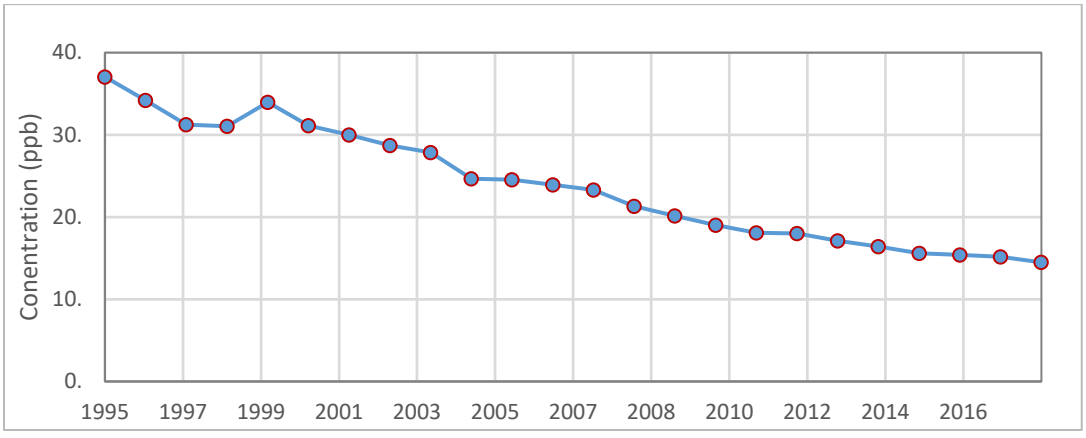

Figure 1-3
Annual average NO2 concentrations in the South Coast Air Basin[3]

[3] Seventy-five percent data completeness criteria was applied.

b. History of Air Quality Planning in the South Coast AQMD

The federal CAA requires areas that are not in attainment of the NAAQS to develop and implement emission reduction strategies that will bring the area into attainment by the required attainment dates. The Air Quality Management Plan (AQMP) is the regional blueprint for achieving air quality standards, and is designed to meet both federal and state CAA planning requirements. The AQMP is jointly developed by South Coast AQMD, CARB and Southern California Association of Governments (SCAG), and is submitted as part of the State Implementation Plan (SIP) to the U.S. EPA for evaluation and approval. The South Coast AQMD addressed attainment of the 1997 8-hour ozone standard of 80 ppb beginning in the 2007 AQMP, with updates provided subsequently in the 2012 and 2016 AQMPs.

i. Air Quality Management Plans

2007 AQMP

The CAA required that areas designated as nonattainment for the 1997 8-hour ozone standard submit a SIP to the U.S. EPA by June 15, 2007. The 2007 AQMP[4] was developed in adherence with this provision and was the first South Coast SIP to address this standard. The 2007 AQMP control strategy consisted of four components: 1) the South Coast AQMD's Stationary and Mobile Source Control Measures, 2) CARB's Proposed Revised Draft State Strategy, 3) South Coast AQMD Policy Options to Supplement CARB's Control Strategy, and 4) Regional Transportation Strategy and Transportation Control Measures provided by SCAG. The magnitude of the NOx emission reductions needed for attainment of the 1997 ozone NAAQS posed a significant challenge requiring an aggressive mobile source control strategy supplemented with focused and strategic stationary source control measures, and close collaboration with federal, state, and regional governments, businesses, and the public. Overall, the 2007 AQMP included 31 stationary and 30 mobile source measures. Based on the emission inventory and modeling analysis, the overall projected emission reductions needed to meet the 1997 8-hour ozone standard were 116 tpd of VOC and 383 tpd of NOx in 2023. A summary of the 2007 AQMP summer planning emission inventory and reductions is provided in Table 1-2.

[4] http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2007-air-quality-management-plan

Table 1-2
2007 AQMP Emission Reductions for 2023 Based on
Summer Planning Inventory (tons per day)

Sources	VOC	NOx
Year 2023 Baseline[1]	**536**	**506**
Baseline Adjustment[2]	(0.2)	9
Emission Reductions:		
South Coast AQMD's Short-Term and Mid-Term Stationary Source Control Measures	*19*	*9*
South Coast AQMD Additional Mobile Source Control Measures	*16*	*43*
CARB's Revised Draft Proposed State Strategy	*54*	*141*
Long-Term Measures[3]	*27*	*190*
Total Emission Reductions (All Measures):	**116**	**383**
2023 Remaining Emissions	**420**	**114**

[1] Emission assumptions from SCAG's 2004 Regional Transportation Plan are already reflected in the AQMP baseline.

[2] Reflects baseline inventory adjustments for CARB's adopted rules in 2006 for large spark-ignited engines (1.9 tpd NOx) and consumer products (4.8 tpd VOC), emissions for the purpose of set-aside tracking (5 tpd VOC increase) and emission benefits from Carl Moyer Program (6.2 tpd NOx) and NSR Program benefits (1.2 tpd NOx). Emission benefits from the Carl Moyer Program presented in this table reflect the additional reductions not included in the baseline. () denotes emission increases. See Appendix III of 2007 AQMP.

[3] Includes long-term reductions from SCLTM-01A, SCLTM-01B, SCLTM-02 and SCLTM-03. Refer to Appendix IV-B-2 of 2007 AQMP.

The South Coast AQMD's short-term and mid-term control strategies for stationary and mobile sources were based on the following approaches: 1) facility modernization; 2) energy efficiency and conservation; 3) good management practices; 4) market incentives/compliance flexibility; 5) area source programs; 6) emission growth management; and 7) mobile source programs. The 2007 AQMP's long-term strategy built upon the long-term reductions associated with the implementation of short- and mid-term control measures or actions proposed by the South Coast AQMD, SCAG, and CARB. For achieving the remainder of the reductions needed for attainment, the long-term strategy primarily relied on long-term control measures based on new advanced technologies and control techniques or significant improvement of existing technologies which could not be specifically defined at the time. These long-term measures were pursuant to CAA section 182(e)(5), a provision that allows for reliance on emission reductions

from future technologies for extreme nonattainment areas. Because these future technologies have not yet been defined, these types of measures are often referred to as the "black box." After implementation of the South Coast AQMD's proposed measures and CARB's State Strategy, reductions from long term measures were estimated to be 27 tpd of VOC and 190 tpd of NOx[5], representing 43% of the overall combined VOC and NOx reductions needed for ozone attainment in 2023. Table 1-3 provides a list of some of the advanced technologies and innovative control approaches presented in the 2007 AQMP to achieve the long-term reductions needed for ozone attainment.

Table 1-3
2007 AQMP Possible Approaches for Long-Term Control Measures

Emission Category	Strategies
Light Duty Vehicles	▪ Extensive retirement of high-emitting vehicles and accelerated penetration of PZEVs and ZEVs
On-Road Heavy Duty Vehicles	▪ Expanded modernization and retrofit of heavy-duty trucks and buses ▪ Expanded inspection and maintenance program ▪ Advanced near-zero and zero-emitting cargo transportation technologies
Off-Road Vehicles	▪ Expanded modernization and retrofit of off-road equipment
Fuels	▪ More stringent gasoline and diesel specifications; Extensive use of diesel alternatives
Marine Vessels	▪ More stringent emission standards and programs for new and existing ocean-going vessels and harbor craft
Locomotives	▪ Advanced near-zero and zero emitting cargo transportation technologies
Pleasure Craft	▪ Accelerated replacement and retrofit of high-emitting engines
Aircraft	▪ More stringent emission standards for jet aircraft (engine standards, clean fuels, retrofit controls); Airport Bubble
Consumer Products	▪ Ultra Low-VOC formulations; Reactivity-based controls
Renewable Energy	▪ Accelerated use of renewable energy and development of hydrogen technology and infrastructure
AB32 Implementation	▪ Concurrent criteria pollutant reduction technologies

[5] A total of 241 tpd of NOx emission reductions were approved by U.S. EPA under section 182(e)(5) provisions

2012 AQMP

The 2012 AQMP was primarily developed to address the planning requirements of the 2006 24-hour PM2.5 standard, while providing some updates to the South Coast AQMD's commitments towards meeting the 1997 8-hour ozone NAAQS. The 2012 AQMP included a number of stationary source control measures covering coatings and solvents, combustion sources, petroleum operations, fugitive VOC emissions, multiple component sources, incentive programs, and educational programs; on-road mobile source measures focusing on light-, medium-, and heavy-duty vehicles; and measures to achieve further emission reductions from off-road mobile sources and off-road industrial equipment. Overall, the 2012 AQMP included 21 stationary and 17 mobile source ozone reduction measures. Based on the emissions inventory and modeling analysis in the 2012 AQMP, the overall projected emission reductions needed to meet the 8-hour ozone standard were 239 tpd of NOx in 2023, compared to the total NOx reductions of 383 tpd identified in the 2007 AQMP. The lower overall emission reductions requirements in 2012 AQMP were primarily due to implementation of South Coast AQMD and CARB measures which resulted in lower ozone levels in the base year, as well as an updated emissions inventory and modeling analysis.

Since the 2012 AQMP was developed primarily to address 24-hour PM2.5 and the federal PM nonattainment area provisions of CAA section 189 which do not allow for long-term measures, this plan did not provide any additional updates to the long-term measures of the 2007 AQMP that were provided in accordance with the federal ozone nonattainment area provisions of CAA section 182(e)(5). The 2012 AQMP did, however, indicate that since some of the major emission sources are already controlled by over 90%, attainment of the ozone standards would require broad deployment of zero- and near-zero emission technologies. The 2012 AQMP highlighted the significant amount of reductions needed to attain the federal ozone and PM standards and the urgent need to engage in interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under the federal CAA.

2016 AQMP

The 2016 AQMP outlines the control strategies needed to attain the 2008 8-hour ozone standard (75 ppb) in 2031, the 2012 annual PM2.5 standard (12 µg/m3) in 2025, and the 2006 24-hour PM2.5 standard (35 µg/m3) in 2019, as well as providing an update on meeting the 1997 8-hour ozone standard (80 ppb) in 2023 and the 1979 1-hour ozone standard (120 ppb) in 2022. The 2016 AQMP's control strategy for attaining the 1997 and 2008 ozone standards in 2023 and 2031, respectively, included defined stationary and mobile source measures proposed by South Coast AQMD as well as CARB's state strategies including defined measures and section 182(e)(5) "Further Deployment of Cleaner Technologies" measures. South Coast AQMD's stationary source measures included 15 measures targeting stationary combustion sources,

petroleum operations and fugitive VOC emissions, coatings and solvents, multiple component sources, best available control measures, and co-benefits from energy and climate change programs. South Coast AQMD's 15 mobile source measures included South Coast AQMD's proposed facility-based mobile source measures (FBMSMs) and a number of incentive-based programs. The FBMSMs cover marine ports, commercial airports, railyards, warehouses and distribution centers, and new development and redevelopment, and are intended to reduce mobile source emissions associated with these types of facilities to help achieve the reductions attributed to CARB's Further Deployment measures. South Coast AQMD's proposed incentive measures cover both on-road vehicles and off-road equipment based on a variety of control technologies that are commercially available and/or technologically feasible to implement in the next several years. The focus of South Coast AQMD's mobile source measures includes accelerated retrofits or replacement of existing vehicles or equipment, acceleration of vehicle turnover through voluntary vehicle retirement programs, and greater use of cleaner fuels in the near-term. In addition, the South Coast AQMD has been implementing several incentive funding programs that have resulted in early emission reductions (e.g., the Carl Moyer Memorial Air Quality Standards Attainment Program, the Surplus Off-Road Opt-In for NOx (SOON) program, and Proposition 1B – Goods Movement Emissions Reduction Program). The continued implementation of these programs is expected to provide additional reductions toward attainment of the 1997 8-hour ozone standard in 2023.

The 2016 State SIP Strategy for the State Implementation Plan (State SIP Strategy) describes CARB's commitment to achieve the mobile source and consumer products reductions needed in the Basin. The State SIP Strategy identified the regulatory and programmatic approaches necessary to deploy cleaner technologies and fuels, and ensure sufficient penetration to meet air quality standards by deadlines established in the CAA. A majority of the reductions needed to meet the ozone standard in the Basin in 2023 will come from existing and proposed regulatory actions. This includes ongoing implementation of the existing control program, combined with proposed regulatory measures identified in the State SIP Strategy. New reductions were identified through two types of measures – defined measures that comprise an aggregate commitment for the State of five tons per day and measures to achieve further deployment of new technologies. The Further Deployment measures represent the remainder of the reductions needed, 108 tpd, and include incentive programs to further accelerate technology penetration in time to meet the standard, and further federal actions, including regulations, support for demonstration programs, and supporting policies to achieve reductions from sources under federal and international regulatory authority. Because these Further Deployment measures do not fit the definition of a defined SIP measure for U.S. EPA's approval purposes and because actions and resources from other agencies are required, these measures were envisioned to be approved under the provisions of section 182(e)(5).

Based on the modeling analysis conducted in the 2016 AQMP, NOx reductions were determined to be the most effective control path for achieving the 1997 8-hour ozone standard in 2023. Figure 1-4 shows the ozone isopleths for Redlands, depicting the effect of reducing VOC and NOx concentrations on ozone concentrations. As illustrated by the blue dot at the upper right corner, ozone levels would be above 95 ppb at the 2023 baseline emissions. As shown in Figure 1-4, to attain the 1997 8-hour ozone standard, reducing NOx emissions (moving downward in the plot) is the most effective control path.

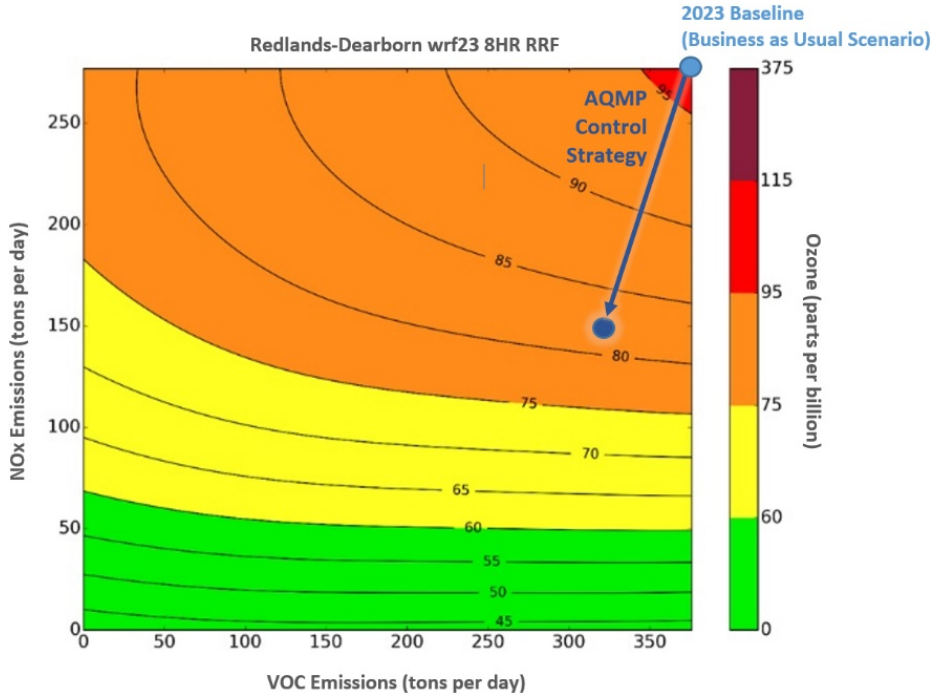

Figure 1-4
2016 AQMP NOx Reductions, Most Efficient Control Path for Ozone Attainment

The attainment of 1997 8-hour ozone standard was demonstrated using NOx and VOC emission reductions expected from the South Coast AQMD's control measures proposed in the 2016 AQMP and the CARB's control measures included in the 2016 State SIP strategy. According to the modeling in the 2016 AQMP, NOx emission reductions is the primary pathway to reach attainment, and NOx emissions will need to be reduced by an additional 45% in order to meet the standard by the 2023 attainment deadline. VOC emission reductions from limited VOC strategies and co-benefits from the NOx strategies can also assist in attainment. VOC emission reductions reflected in the attainment demonstration can be grouped into four categories; reductions from South Coast AQMD's VOC measures, co-benefits from South Coast AQMD's NOx measures, CARB's defined measures for NOx and VOC, and co-benefits from CARB's Further Deployment of Cleaner Technology (i.e., 182(e)(5) measures). Table 1-4 summarizes VOC reductions associated with these four categories. The VOC emission reductions associated with the 182(e)(5) measures are approximately 40-41 TPD.

Table 1-4
VOC Emission Reductions Included in the 1997 Federal 8-hour Ozone Attainment Strategy

2023	VOC Emissions (tons per day)
Baseline	378.6
1997 8-hour Ozone Standard Attainment Demonstration	313.3[+]
Reductions from South Coast AQMD VOC measures	3[++]
Co-benefits from South Coast AQMD NOx measures	10.2[#]
Reductions from CARB Defined Measures	8.7-9.7[*]
Reductions from CARB Further Deployment of Cleaner Technology	40-41[*]

+ Remaining emission excluding SIP set-aside account
++ 2016 AQMP Table 4-2, FUG-01 and CTS-01
# 2016 AQMP Appendix V, Attachment 3
* 2016 State SIP strategy Table 4

While VOC emission reductions can assist in attainment, the 8-hour ozone attainment is more sensitive to NOx emission reductions than to VOC emission reductions. This is well illustrated in the ozone Empirical Kinetic Modeling Approach (EKMA) plot or so-called isopleths presented in the 2016 AQMP Appendix V Attachment 5. The ozone isopleths are developed based on numerous simulations of a comprehensive chemical transport model responding to various NOx and VOC emissions scenarios. The response of ozone to NOx and/or VOC reductions varies depending on the ratio of NOx to VOC and meteorological conditions, as the shape and contours of the isopleths change from location to location. Still, the isopleths provide a generalized platform to evaluate the efficacy of ozone strategy with respect to NOx and/or VOC reductions. The 2016 AQMP modeling analysis indicates that near the 80 ppb level, ozone is significantly more sensitive to NOx reductions than to VOC reductions.

During the implementation of NOx strategy, VOC co-benefits will inevitably occur. As an example, if an old gasoline vehicle is replaced with a new zero-emission vehicle, both VOC and NOx emissions are eliminated concurrently. The exact amount of concurrent VOC reductions will vary depending on vehicle categories impacted by a measure. Still, even if VOC emission reductions from the implementation of the section 182(e)(5) measures fall short of CARB's commitment of 40-41 tpd, NOx and concurrent VOC emission reductions from the commitment associated with implementation of the Contingency Measure Plan of South Coast AQMD and CARB are expected to ensure the attainment of the 1997 federal 8-hour ozone standard in the South Coast Air Basin. As a result, there is no need for submission of contingency measures for VOC reductions estimated for CARB's Further Deployment of Cleaner Technologies measures.

The magnitude of needed NOx emission reductions for attainment of the ozone NAAQS in 2023 represents a significant challenge for the whole region given the short remaining timeline. As most sources are already subject to the most stringent emissions controls in the world, attainment of the ozone standard will require broad deployment of zero and near-zero NOx emission technologies. Based on the emission inventory and modeling analysis, the carrying capacity - the maximum amount of emissions allowable in the region that would still meet the standard - is 141 tpd of NOx in 2023.[6] A summary of the 2016 AQMP summer planning NOx emission inventory and reductions is provided in Table 1-5.

Table 1-5
2016 AQMP NOx Emission Reductions for 2023 Based on Summer Planning Inventory (tons per day)

Sources	NOx
Year 2023 Baseline[1]	**269**
Carrying Capacity	**141**
Total Emission Reductions (All Measures):	**135**
Defined Measures:	*27*
South Coast AQMD's Stationary Source Control Measures	*7*
South Cost AQMD Additional Mobile Source Control Measures	*16*
CARB's Defined Measures	*4*
Further Deployment of Cleaner Technologies	*108*
Set Aside Budget[2]	3
2023 Remaining Emissions	**137[3]**

[1] Reflects CARB's 2018 Updates to the California State Implementation Plan (https://ww3.arb.ca.gov/planning/sip/2018sipupdate/2018sipupdate.htm).
[2.] As SIP reserve for potential technology assessment and for general conformity purposes
[3] Reflects an additional 4.2 tpd of NOx emission reductions beyond the projected carrying capacity of 141 tpd to accommodate changes in ocean-going vessel (OGV) emission inventory and CARB's SIP strategy for OGV.

In 2023, mobile sources, which are under the state and federal jurisdiction, are responsible for 80% of NOx emissions while stationary sources, which are already subject to the most stringent requirements, account for the remaining 20% of NOx emissions. Therefore, the vast majority of NOx reductions needed for attainment have to come from mobile sources. As illustrated in Table 1-5, after implementation of the defined control measures by South Coast AQMD and CARB, an additional 108 tpd of NOx reductions are still needed to attain the 1997 ozone standard in 2023. These remaining reductions are expected to be achieved through Further Deployment of Cleaner Technologies measures for on-road heavy-duty vehicles, off-road equipment, and federal and

[6] The carrying capacity is higher than the one predicted in the 2007 AQMP due to several factors including lower ozone levels in the base year of the 2016 AQMP, updated emission and modeling systems as well as EPA's updated modeling guidance and methodology.

international sources. The “Further Deployment” measures include incentive programs, regulations to be developed as zero and near-zero emission vehicles and equipment are commercialized, South Coast AQMD’s FBMSMs, and the quantification of the emission reduction benefits from operational efficiency improvements and deployment of connected vehicles, autonomous vehicles, and intelligent transportation systems.

As indicated in the 2016 AQMP, significant amounts of incentive funding, in combination with regulatory actions, are needed to achieve the 1997 and 2008 ozone standards in the Basin. Based on the 2016 AQMP’s analysis, the amount of funding needed to achieve the NOx emission reductions associated with the “Further Deployment” measures proposed in the State Mobile Source Strategy and the 2016 AQMP is about $1 billion per year beginning in 2017 over the next 14 years.

It is important to highlight the reduced reliance on control strategies approved under the provisions of CAA section 182(e)(5) for attainment of the 1997 8-hour ozone standard in the 2016 AQMP compared to the 2007 AQMP (Figure 1-5). In the 2007 AQMP, 241 tpd of NOx reductions were associated with measures approved by the U.S. EPA under section 182(e)(5). By the time the 2016 AQMP was adopted, the majority of the zero and near-zero technologies needed for attainment were already, or would soon be, commercially available. However, reliance on section 182(e)(5) in the 2016 AQMP was necessary, not because the technology was not yet identified, as was the case in the 2007 AQMP, but because of the difficulty in quickly turning the fleet over to this new technology given that many mobile source categories are under federal jurisdiction. Nevertheless, achieving the remaining 108 tpd of NOx by 2023 represents a very difficult challenge requiring new regulatory programs and a significant level of funding.

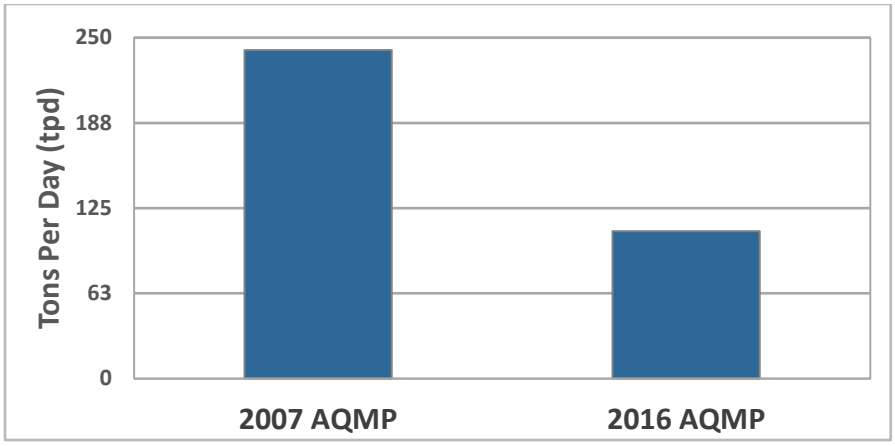

Figure 1-5
2007 AQMP vs. 2016 AQMP Reduced Reliance on Section 182(e)(5) Measures

Attainment of the 1997 8-hour ozone standard will require aggressive mobile source control strategies and incentive programs, supplemented by focused and strategic stationary source control measures, and expedited action by federal, state, and regional governments, businesses, and the public. Significant challenges remain in meeting the federal ozone standard. Ozone reduction strategies and programs need to be accelerated to ensure that the air basin will meet the 8-hour ozone standard by 2024.

ii. Evolution of the Mobile Source Program

Since the U.S. EPA set the 8-hour ozone standard in 1997, total NOx emissions in the South Coast have been reduced by nearly 70% in 2019, and are projected to be reduced by 76 percent in 2023. A significant portion of these reductions came from mobile source programs. California's strategies to procure reductions from mobile sources have matured over the past decades as technology and science have progressed.

California's first vehicle exhaust standards were set in 1963, and vapor recovery from vehicle fueling stations followed soon after. Efforts in the 1980's focused on reducing emissions from passenger vehicles, as that represented a substantial portion of the ozone precursor emissions in the State's nonattainment areas. Light-duty vehicle programs such as the Smog Check and on-board diagnostics programs ensured that the control technology remained functional. The first Low-Emission Vehicle (LEV) regulations were adopted in 1990, requiring automobile manufacturers to introduce progressively cleaner light- and medium-duty vehicles with more durable emission controls and extended warrantees for those controls from the 1994 through 2003 model years. By adopting these regulations, CARB established the most stringent criteria pollutant exhaust regulations ever for light- and medium-duty vehicles. Subsequent generations of the LEV regulations continued to reduce criteria pollutant emissions from new light- and medium-duty vehicles. In 2012, CARB adopted the LEV III regulations as part of the Advanced Clean Cars rulemaking package. The LEV III regulations included increasingly stringent emission standards for criteria pollutants and greenhouse gases for new passenger vehicles through the 2025 model year.

In the 1990s, emissions from trucks and other heavy-duty vehicles were increasing. At the same time, air quality modeling showed that strategies to reduce ozone should be targeting reductions in NOx emissions. In an effort to address this, California focused on pollution control technology in heavy-duty vehicles by setting emission standards for new trucks and requiring cleaner burning diesel fuel. Small off-road equipment standards were also adopted. Cleaner generations of those new equipment standards were adopted over the next two decades. California also continued to regulate VOC emissions during the 1990s, adopting regulations to reduce VOCs from consumer products.

With California's actions to establish stringent emissions standards for new light and heavy-duty vehicles, cleaner vehicles entering the fleet were replacing older, dirtier ones. California also created programs to ensure that pollution controls remained functional and that cars with excessive emissions were repaired or removed from the road. The Smog Check program required vehicle emissions to be tested regularly and the On-Board Diagnostic system required light-duty vehicles to monitor components that affect the performance of the vehicle emission controls.

To speed the transition to cleaner vehicles, the Carl Moyer incentive program was developed. This program focused on reducing NOx emissions by accelerating the turnover of older heavy-duty diesel vehicles and equipment to technologies that are cleaner than required by current regulations. Since its inception, the Carl Moyer Program has provided funding to incentivize the turnover of heavy-duty diesel engines and vehicles including on-road trucks, marine vessels, irrigation pumps, forklifts, and other off-road equipment. The table below highlights this program and the other significant California regulations and programs adopted in the 1980s and 1990s.

Table 1-6
Major State Regulations Adopted Between 1980 and 1999

Major Regulations Adopted Between 1980 and 1999	Implementation	Source
Vehicle Inspection and Maintenance program (Smog Check)	1984	Light-Duty Vehicles
On-Board Diagnostic	1988	Light-Duty Vehicles
Heavy-Duty Diesel NOx Standards	1990/96/98	Heavy-Duty Vehicles
Reformulated Gasoline	1992	Gasoline
Clean Diesel Fuel	1992	Diesel
Low-Emission Vehicle	1994	Light-Duty Vehicles
On-Board Diagnostic II	1996	Light-Duty Vehicles
Zero-Emission Vehicle program	1998	Light-Duty Vehicles
Carl Moyer Program	1998	Vehicles

In the 2000's and 2010's, California's efforts focused on specific fleets that tended to remain in service longer and contained higher emitting vehicles compared to newer vehicles. A prominent example of this is the 2010 Truck and Bus Regulation which requires that all trucks in California meet 2010 Heavy-Duty Engine Standards by 2023. This all-encompassing regulation was

preceded by regulations targeting drayage trucks and solid waste collection vehicles that sped the turnover of those fleets.

Given the need to turn over the on-road fleets to cleaner vehicles faster than natural turnover would dictate, new incentive programs were created, such as the light-duty Clean Vehicle Rebate Program and the Heavy-Duty Proposition 1B Freight Program. In addition, the Carl Moyer Program was expanded in 2004 to fund a wider range of equipment, while maintaining the mandate that the funded vehicles and equipment must go beyond current regulatory requirements.

Table 1-7
Major State Regulations Adopted Since 2000

Major Regulations Adopted Since 2000	Implementation Begins	Source
School Zone Idling	2003	Heavy-Duty Vehicles
Heavy-Duty Diesel NOx Standards	2004/2007/2010	Heavy-Duty Vehicles
Commercial Vehicle Idling	2005	Heavy-Duty Vehicles
Public Agencies and Utilities Fleet	2006	Heavy-Duty Vehicles
Proposition 1B incentive program	2007	Heavy-Duty Vehicles
Solid Waste Collection Vehicles	2008	Heavy-Duty Vehicles
Clean Vehicle Rebate Project	2010	Light-Duty Vehicles
Drayage Truck Regulation	2010	Heavy-Duty Vehicles
Truck and Bus Regulation	2012	Heavy-Duty Vehicles
Enhanced Fleet Modernization Plus Up	2015	Light-Duty Vehicles
LEV III/ Alternative Clean Cars	2015	Light-Duty Vehicles

c. Emission Benefits from Existing Programs

i. Stationary Sources

South Coast AQMD first addressed the attainment of the 8-hour ozone standard of 80 ppb in the 2007 AQMP, with updates provided subsequently in the 2012 and 2016 AQMPs. Over the past fifteen years, ozone levels in the South Coast Air Basin have steadily decreased largely due to the implementation of emission control measures by the South Coast AQMD and CARB. The 2007 AQMP included 2023 baseline emissions of 506 tpd NOx and 536 tpd VOC, based on the summer planning inventory. With the implementation of the 2007 AQMP and 2012 AQMP control measures and the State SIP Strategy, the 2023 baseline emissions decreased to 269 tpd NOx in the

2016 AQMP. In other words, the 2023 projected emissions have been cut by almost half by the rules and regulations implemented in the last decade. This section summarizes the progress made in obtaining emission reductions from control measures from the 2007, 2012, and 2016 AQMPs, and describes how these existing programs assist in attaining the 1997 8-hour ozone standard.

Summary of 2007 AQMP Implementation

The 2007 AQMP was developed to address the CAA planning requirements for attaining the 1997 8-hour ozone standard and the 1997 annual PM2.5 standard. The 8-hour ozone control strategy built upon the PM2.5 strategy, augmented with additional NOx and VOC reductions to meet the standard by the deadline in 2024 (emission reductions to occur in 2023). The ozone portion of the 2007 AQMP was approved by U.S. EPA into the SIP on March 1, 2012.[7] The 2012 AQMP provided an update on the progress in implementing the 2007 AQMP. This progress can be measured by the number of control measures that have been adopted as rules and the resulting emission reductions. Between 2008 and 2011, twelve control measures or rules were adopted or amended by the South Coast AQMD. Table 1-8 lists the South Coast AQMD's 2007 AQMP commitments and the control measures or rules that were adopted through 2011. The emission reductions that were achieved in 2014 and will be achieved in 2023 through already adopted measures are based on the emissions inventories from the 2007 AQMP. As shown in Table 1-8, for the control measures adopted by the South Coast AQMD over this period, 22.5 tpd of VOC reductions and 7.6 tpd of NOx reductions had been achieved by 2014. The 2023 projected emissions reductions associated with implementation of these measures are 26.3 tpd of VOC emissions and 10.3 tpd of NOx emissions.

[7] https://www.federalregister.gov/documents/2012/03/01/2012-4673/approval-of-air-quality-implementation-plans-california-south-coast-attainment-plan-for-1997-8-hour

Table 1-8
2007 AQMP Measures' Emission Reductions
for VOC and NOx (tons per day)

Control Measure #	Control Measure Title	Adoption Date	COMMITMENT (tpd)		ACHIEVED (tpd)	
			2014	2023	2014	2023
VOC EMISSIONS						
MOB-05	AB923 Light-Duty Vehicle High-Emitter Identification Program	On-going	0.8	0.7	--	--
MOB-06	AB923 Medium-Duty Vehicle High-Emitter Identification Program	On-going	0.5	0.6	--	--
FUG-04	Pipeline and Storage Tank Degassing - R1149	2008	NA	NA	0.04	0.04
BCM-03	Emission Reductions from Wood Burning Fireplaces and Wood Stoves	2008	NA	NA	0.44	0.70
MCS-01	Facility Modernization - R1110.2	2008+	2.0	9.2	0.3	0.3
CTS-01	Emission Reductions from Lubricants	2009	1.9	2.0	3.9	3.2
CTS-04	Emission Reductions from the Reduction of VOC Content of Consumer Products Not Regulated by the State Board -R1143	2009	NA	NA	9.7	10.1
MCS-04	Further Emission Reductions from Greenwaste Composting Operations - R1133.3	2011	NA	NA	0.88	0.88
MCS-07	Application of All Feasible Measures - R1113, R1177	2011	NA	NA	7.2	11.1
FLX-02	Petroleum Refinery Pilot Program	*	0.7	1.6	0	0
FUG-02	Emission Reductions from Gasoline Transfer and Dispensing Facilities	*	3.7	4.0	0	0

MCS-05	Emission Reductions from Livestock Waste	*	0.8	0.6	0	0
EGM-01	Emission Reductions from New or Redevelopment Projects	**	NA	0.5	NA	--
	TOTAL VOC REDUCTIONS		**10.4**	**19.2**	**22.5**	**26.3**
	NOx EMISSIONS					
MOB-05	AB923 Light-Duty Vehicle High-Emitter Identification Program	On-going	0.4	0.4	--	--
MOB-06	AB923 Medium-Duty Vehicle High-Emitter Identification Program	On-going	0.5	0.6	--	--
CMB-01	NOx Reduction from Non RECLAIM Ovens, Dryers and Furnaces -R1147	2008	3.5	4.1	3.5	4.1
BCM-03	Emission Reductions from Wood Burning Fireplaces and Wood Stoves R445	2008	NA	NA	0.06	0.10
OFFRD-01	SOON Program	2008	4-8	NA	1.8	NA
MCS-01	Facility Modernization - R1110.2, PR1146, PR1146.1	2008+	1.6	2.2	2.17	3.15
CMB-03	Further NOx Reductions from Space Heaters	2009	0.8	1.1	0.1	3.0
EGM-01	Emission Reductions from New or Redevelopment Projects	**	0	0.8	--	--
	TOTAL NOx REDUCTIONS		**6.8**	**9.2**	**7.6**	**10.35**

**SIP commitment for VOC reductions in the PM2.5 Plan was met via excess reductions achieved from CTS-04 (R1143).*

***No SIP emission reduction commitment for the PM2.5 Plan. Rulemaking is delayed due to potential co-benefits of SB375 reduction targets.*

Summary of 2012 AQMP Implementation

The 2012 AQMP was developed to set forth a comprehensive and integrated program that would bring the Basin into attainment of the federal 24-hour PM2.5 air quality standard, and to provide an update to the Basin's commitments towards meeting the federal 8-hour ozone standards. The Plan included updated and new control measures and commitments for emissions reductions for the 8-hour ozone attainment strategy and helped reduce reliance on the section 182(e)(5) long-term measures. The 2012 AQMP received a limited approval and limited disapproval by U.S. EPA on April 14, 2016.[8,9] Table 1-9 lists the South Coast AQMD's 2012 AQMP commitments and the control measures or rules that were adopted through 2015. The emission reductions are quantified based on the emission inventories and milestone years from the 2012 AQMP. As shown in Table 1-9, for the control measures adopted by the South Coast AQMD over this period, 2.4 tpd of VOC reductions and 19.5 tpd of NOx reductions, will be achieved by 2023.

[8] *https://www.federalregister.gov/documents/2016/04/14/2016-08039/partial-approval-and-partial-disapproval-of-air-quality-state-implementation-plans-california-south*

[9] The limited disapproval was based on the concerns that the 2010 RECLAIM program did not meet the Reasonably Available Control Measure, Reasonably Available Control Technology (RACM/RACT) requirement for certain sources of emissions, which was subsequently resolved in 2018. *https://www.federalregister.gov/documents/2018/02/12/2018-02677/air-quality-state-implementation-plans-approvals-and-promulgations-california-south-coast-moderate*

Table 1-9
2012 AQMP Measures' Emission Reductions
for NOx and VOC (tons per day)

Control Measure #	Control Measure Title	Adoption Date	COMMITMENT		ACHIEVED	
			2014	2023	2014	2023
NOx EMISSIONS						
OFFRD-01	Extension of the SOON Provision for Construction/Industrial Equipment	Ongoing	--	7.5	--	7.5
CMB-01	Further Reductions from RECLAIM [Regulation XX]	2015	2	3	0	12
CMB-02	NOx Reduction from Biogas Flares	Rulemaking Underway	--	TBD	--	TBD
CMB-03	Reductions from Commercial Space Heating	2016	--	0.18	--	TBD
TOTAL NOx REDUCTIONS			**2**	**10.7**	**0**	**19.5**
VOC EMISSIONS						
CTS-01	Further VOC Reductions from Architectural Coatings [R1113]	2016	--	2	--	1
CTS-02	Further Emission Reductions from Miscellaneous Coatings, Adhesives, Solvents and Lubricants	Rulemaking Underway	--	1	--	--
CTS-03	Further VOC Reduction from Mold Release Products [R1161]	Rulemaking Underway	--	0.8	--	--
FUG-01	VOC Reductions from Vacuum Trucks [R1188]	Rulemaking Underway	--	TBD	--	--
FUG-02	Emission Reduction from LPG Transfer and Dispensing [R1177]	Rulemaking Underway	--	1	--	--
FUG-03	Emission Reduction from Fugitive VOC Emissions	2016	--	1	--	--
MCS-01	Application of All Feasible Measure Assessment [R1114]	Ongoing	TBD	TBD	0.4	1.4
TOTAL VOC REDUCTIONS			**0**	**5.8**	**0.4**	**2.4**

Summary of 2016 AQMP Implementation

The 2016 AQMP is an integrated Plan designed to primarily address the 8-hour ozone NAAQS established in 2008, the annual PM2.5 NAAQS established in 2012, and the 24-hour PM2.5 NAAQS established in 2006 (2006 24-hour PM2.5). Given the overlap in emissions and control strategies for other yet-to-be-attained NAAQS, the 2016 AQMP also provides an update on the control strategy for two other standards: the 1997 8-hour ozone NAAQS and the 1979 1-hour ozone NAAQS. Ozone measures include actions to reduce NOx and VOC emissions from both stationary (point and area) and mobile sources. The mobile source measures include actions to be taken by the South Coast AQMD, CARB and the U.S. EPA.

Since the adoption of the 2016 AQMP, several rules have been developed and adopted as part of the implementation of the Plan. As noted in Table 1-10, one control measure commitment, CTS-01, was fulfilled with the October 2017 amendment to Rule 1168 – Adhesive and Sealant Applications, resulting in a VOC reduction of 1.4 tpd by 2023, exceeding the commitment of 1.0 tpd in the 2016 AQMP. Rule 1118.1 – Non-Refinery Flares, seeks to fulfill the purpose of CMB-03 and was adopted by the Governing Board in January 2019. Recently approved amendments to Rules 1134, 1135 and the 1146 series have assisted in achieving the goals of control measure CMB-05 to transition RECLAIM facilities into command and control. There are also a number of 2016 AQMP control measures for which development is currently under way, including Rules 1109.1, 1117, the 1147 series, 1150.3, and 1179.1, and continuing implementation of ongoing mobile source programs such as Surplus Off-Road Opt-In for NOx (SOON), the extended exchange program, and incentive programs (e.g., Carl Moyer), for which reductions have not yet been completely quantified.

Three mobile source incentive measures with quantifiable NOx emission reductions were included in the 2016 AQMP. They are MOB-10 (Extension of the SOON Provision for Construction/Industrial Equipment), MOB-11 (Extended Exchange Program), and MOB-14 (Emission Reductions from Incentive Programs), each with 2, 2.9 and 11 tpd of committed NOx reductions, respectively, by 2023. MOB-14 recognizes the emission benefits from incentive funding programs such as the Carl Moyer Memorial Air Quality Standards Attainment Program and Proposition 1B such that the emission reductions from these programs can be accounted for in the SIP. To track the implementation of MOB-14, the emission reduction benefits for the incentive projects funded under Carl Moyer Program and Proposition 1B were quantified between 2013 and 2019 and were estimated to be 5.9 tpd in 2023. Given that the emission reductions from secured or reasonably anticipated funding for future Moyer projects are likely to continue to generate surplus emissions in 2023, it is anticipated that the aggregate commitments of 11 tpd under MOB-14 will be fulfilled.

Table 1-10
2016 AQMP Measures' Emission Reductions To Date
for VOC and NOx (tons per day)

Control Measure #	Control Measure Title	Adoption Date	COMMITMENT		ADOPTED TO BE ACHIEVED	
			2023	2031	2023	2031
VOC EMISSIONS						
CTS-01	Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants [R1168]	2017/2021	1.0	2.0	1.4	--
FUG-01	Improved Leak Detection and Repair	2019	2.0	2.0	--	--
CMB-01	Transition to Zero and Near-Zero Emission Technologies for Stationary Sources	2018	1.2	2.8	--	--
CMB-03	Emission Reductions from Non-Refinery Flares [R1118.1]	2018	0.4	0.4	0.014	--
ECC-02	Co-Benefits from Existing Residential and Commercial Building Energy Efficiency Measures	2018	0.07	0.3	--	--
ECC-03	Additional Enhancements in Reducing Existing Residential Building Energy Use	2018	0.2	0.3	--	--
BCM-10	Emission Reductions from Greenwaste Composting	2019	1.5	1.8	--	--
TOTAL VOC REDUCTIONS			**6.4**	**9.6**	**1.4**	**--**
NOx EMISSIONS						
CMB-01	Transition to Zero and Near-Zero Emission Technologies for Stationary Sources	2018	2.5	6.0	--	--
CMB-02	Emission Reductions from Replacement with Zero or Near-Zero NOx Appliances in Commercial and Residential Applications	2018	1.1	2.8	0.01	--
CMB-03	Emission Reductions from Non-Refinery Flares [R1118.1]	2018	1.4	1.5	0.2	--
CMB-04	Emission Reductions from Restaurant Burners and Residential Cooking	2018	0.8	1.6	--	--
CMB-05	Further NOx Reductions from RECLAIM Assessment [R1134, 1135, R1146 series]	2022	0.0	5.0	TBD*	--

ECC-02	Co-Benefits from Existing Residential and Commercial Building Energy Efficiency Measures	2018	0.3	1.1	0.3**	--
ECC-03	Additional Enhancements in Reducing Existing Residential Building Energy Use	2018	1.2	2.1	--	--
MOB-10	Extension of the SOON Provision for Construction/Industrial Equipment	Ongoing	1.9	1.9	TBD	TBD
MOB-11	Extended Exchange Program	Ongoing	2.9	1.0	TBD	TBD
MOB-14	Emission Reductions from Incentive Programs	Ongoing	11	7.8	5.9***	TBD
	TOTAL NOx REDUCTIONS		**23.1**	**31.0**	**6.4**	**TBD**

**Emission reductions from Rules 1134, 1135 and 1146 series are used to account for the RECLAIM shave as amended in 2015. Part of these emission reductions resulting from non-RECLAIM facilities could be used to fulfill CMB-01 and CMB-02.*
*** A linear extrapolation was used to estimate emission reductions from ECC-02 which are co-benefits from the adoption of State policies, such as SB350 and Title 24.*
**** Estimated reductions through 2020.*

RECLAIM

The Regional Clean Air Incentives Market (RECLAIM) program, under South Coast AQMD's Regulation XX, was adopted in October 1993 and is a market-based emissions trading program designed to reduce NOx and SOx emissions. RECLAIM was designed to provide equivalent emission reductions in the aggregate for the facilities in the program compared to what would occur under a command-and-control approach, with flexibility for each facility to find the most cost-effective strategy to meet their emission reduction targets. The California Health and Safety Code requires the South Coast AQMD to implement Best Available Retrofit Control Technology (BARCT) in the RECLAIM program, as well as for other stationary sources, and if BARCT advances, the South Coast AQMD is required to periodically re-assess the overall program caps (i.e. overall allocation), and reduce the RECLAIM Trading Credit (RTC) holdings to a level equivalent to command-and-control BARCT levels. In December 2015, the South Coast AQMD Governing Board adopted a reduction of 12 tpd of RTCs over a seven-year period, from 2016 to 2022. With an allocation of 26.5 tpd of RTCs in 2015, the remaining allocation would be 14.5 tpd in 2023. Further, on March 3, 2017, the South Coast AQMD Governing Board adopted a 2016 AQMP NOx RECLAIM measure (CMB-05) to achieve 5 tpd of NOx emission reductions commitment as soon as feasible, and no later than 2025, and to transition the RECLAIM Program to a command-and-control regulatory structure requiring BARCT level controls as soon as practicable.

As specified in the staff report of the 2015 December RECLAIM amendment, a reduction of 12 tpd of RTCs is calculated based on the actual emissions reported by the RECLAIM facilities in

2011/2012, with adjustments to account for uncertainties that arose in the BARCT analysis and for additional 2011 activity level adjustments. The 2011/2012 baseline emissions for the NOx RECLAIM universe were 20.7 tpd. With the implementation the 2015 RECLAIM amendment, the RTCs remaining in 2023 will be 14.5 tpd. Therefore, to account for the RECLAIM shave in the SIP, a reduction of 6.2 tpd of actual emissions (the difference between the actual emissions in 2011/2012 and the 2023 remaining potential emissions in the SIP emission inventory) was included in the baseline emissions for the 8-hour ozone attainment demonstration in the 2016 AQMP.

In order to accurately report on progress made toward achieving emission reduction commitments, reductions from RECLAIM BARCT rules are first allocated to account for the reduction specified under RECLAIM Rule 2002. Since the adoption of the 2016 AQMP, six rules (Rules 1110.2, 1134, 1135, 1146, 1146.1, and 1146.2) have been adopted or amended by the South Coast AQMD as part of the RECLAIM transition. The total emission reductions resulting from these six rules is 5.2 tpd. Furthermore, five additional rules (Rules 1117, 1147, 1147.1, 1147.2 and 1147.3) are currently under development and are scheduled for amendment / adoption in calendar year 2020. The emission reductions anticipated from these rule amendments /adoptions are estimated to be at least in the range of 0.5 tpd to 1 tpd, which will likely satisfy the baseline NOx emission reductions commitments specified under RECLAIM Rule 2002. As the RECLAIM program transitions into a regulatory approach, the actual emissions from the RECLAIM universe will be tracked for emission reconciliation with the commitments in the SIP inventory. Additional reductions beyond this commitment due to these and other rulemaking activities (e.g., 1109.1) are discussed later.

The 2016 AQMP included new and innovative means to continue to make progress toward attaining the ozone standard. These included incentive programs, efficiency improvements, recognizing co-benefits from other programs, regulatory measures, and other voluntary actions. A key element of the 2016 AQMP is to make available private and public funding to help further the development and deployment of the advanced cleaner technologies such as zero emission and near-zero emission technologies, and co-benefits from existing programs (e.g., climate and energy efficiency). On January 4, 2019, the South Coast AQMD Governing Board awarded 27 emission reduction incentive projects, totaling over $47 million from several South Coast AQMD mitigation and penalty funds, to support the 2016 AQMP's goals. Of the 27 projects, 16 are selected to implement commercially available zero or near-zero control technology as well as to support infrastructure for implementation of cleaner fuels. These projects are anticipated to result in approximately 88 tons per year of NOx and 2 tons per year of PM2.5 emissions reductions in the Basin, with the majority of the projects in environmental justice communities. Additionally, 11 stationary and mobile source technology demonstration projects were funded. Upon successful demonstration and deployment, these projects have the potential to provide additional long term NOx and VOC emission reductions. The awarded projects are consistent

with the commitments in various 2016 AQMP control measures including MOB-14, CMB-02, CMB-04, and ECC-03.

Table 1-11
South Coast AQMD Emission Reduction Allocation

	Rule	Adoption Date	NOx Reduction (tpd)
Adopted Rules in 2018 - 2019	Rule 1134 – Stationary Gas Turbines	4/5/2019	2.8
	Rule 1135 – Electricity Generating Facilities	11/2/2018	1.8
	Rule 1146, Rule 1146.1, Rule 1146.2 – Non-Refinery Boilers and Heaters	12/7/2018	0.3
	Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines	11/1/2019	0.3
Rules to be Adopted in 2020	Rule 1117 – Emissions of Oxides of Nitrogen from Glass Melting Furnaces	n/a	0.5 to 1
	Rule 1147 – Series NOx Reductions from Miscellaneous Sources		
	Rule 1147.1 – NOx Reductions from Large Miscellaneous Combustion		
	Rule 1147.2 – NOx Reductions from Metal Processing Equipment		
	Rule 1147.3 - NOx Reductions for Equipment at Aggregate Facilities		

ii. Mobile Sources

On-Going Mobile Source Regulations and Programs

CARB is implementing numerous regulations aimed at reducing NOx from light-duty on-road vehicles such as cars, heavy-duty on-road vehicles such as diesel trucks, and off-road sources like cargo handling equipment and large construction equipment. Phased implementation of these regulations continues to lower emissions from mobile sources and off-road equipment through 2023 and beyond, as newer vehicles and equipment are introduced with cleaner technologies, and replace the older and dirtier vehicles and equipment. In addition to regulations targeting vehicles and other combustion sources, as mentioned above, CARB is requiring cleaner fuels that provide for additional emission reductions in vehicles and equipment. NOx emissions from light-duty vehicles in the Basin have been reduced significantly over the past several

decades and will continue to go down after 2023 due to the benefits of CARB's longstanding light-duty mobile source program. Between 1997 and 2023, NOx emission from light-duty sources have decreased by over 90 percent. Key light-duty programs include:

- Zero Emission Vehicle (ZEV) program that requires auto manufacturers to offer for sale specific numbers of the cleanest cars available;
- Reformulated Gasoline program that requires gasoline in California meet specifications for clean burning fuel;
- Smog Check Program that requires periodic inspections of the vehicle's emission controls, and repairs to controls that are not functioning properly;
- Low Emission Vehicle (LEV) and LEV II regulations that set engine standards for cars, sport utility vehicles, pick-up trucks and mini-vans;
- On-Board Diagnostics (OBD) and OBD II regulations requiring passenger cars, light-duty trucks, and medium-duty vehicles to be equipped with emission control diagnostic systems; and
- Advanced Clean Cars program that sets comprehensive standards for new vehicles in California through model year 2025.

NOx emissions from heavy-duty vehicles in the Basin have been reduced significantly and will continue to be reduced beyond 2023 due to the benefits of CARB's heavy-duty mobile source program. Between 1997 and 2023, NOx emissions from heavy-duty sources have decreased by 80 percent. Key heavy-duty programs for this source include:

- Stringent heavy-duty engine standards;
- CARB Clean and Cleaner Diesel programs that reduce emissions from all diesel vehicles and equipment;
- Regulations to limit idling in school buses and commercial vehicles;
- In-use regulations on specific fleets such as solid waste collection vehicles and drayage trucks; and
- Truck and Bus Regulation that requires all older trucks and buses to meet the 2010 engine emissions standards in 2023.

Off-road sources encompass equipment powered by an engine that does not operate on the road. Sources vary from ocean-going vessels to lawn and garden equipment and include locomotives, aircraft, tractors, harbor craft, off-road recreational vehicles, construction equipment, forklifts, and cargo handling equipment. NOx emissions from off-road sources in the Basin have been reduced significantly and will continue to go down through 2023 due to the benefits of CARB and U.S. EPA programs. Between 1997 and 2023, NOx emission from off-road sources have decreased by over 50 percent. Key off-road programs for these off-road sources include:

- Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation that requires operators of in-use fleets achieve tightening specific fleet emission standards;
- Small Off-Road Engines (SORE) program setting emissions standards for spark ignition engines rated at or below 19 kilowatts; and
- Regulations limiting emissions from specific off-road equipment such as cargo handling equipment and transportation refrigeration units.

To speed the delivery of the cleanest vehicles to the Basin, CARB and the South Coast AQMD have worked on identifying and distributing incentive funds needed to accelerate the cleanup of older vehicles. There are a number of incentive programs that have speeded the early turnover to clean vehicles and produced emission reductions beyond what could be achieved by new engine standards and natural turnover. Key incentive programs for mobile sources include:

- Clean Vehicle Rebate Project and Enhanced Fleet Modernization Program for light-duty vehicles;
- Carl Moyer Incentive Program and the Proposition 1B Incentive Program for on-road and off-road heavy-duty vehicles;
- Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project for on-road heavy-duty trucks and buses; and
- Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program for agricultural equipment.

State SIP Strategy Implementation

Since adopting the State SIP Strategy, CARB has been implementing the measures that were defined in the Strategy according to the schedule set forth in the aggregate commitment. Several of these measures have been adopted by CARB and are detailed in the table below. Other measures are in the development stage, either undergoing public workshops or being developed by CARB staff.

Table 1-12
2016 State SIP Strategy Aggregate Commitment Measures

Measure Title	Board date Adopting the Subsequent Rule
South Coast On-Road Heavy Duty Vehicle Incentive Measure	March 22, 2018
Heavy-Duty Diesel Vehicle Emission Control System Warranty Regulation Amendments	June 2018
Innovative Clean Transit Regulation	December 14, 2018
Zero-emission Airport Shuttle Regulation	June 1, 2019
Zero-Emission Powertrain Certification Regulation	June 1, 2019
Electric Vehicle Supply Equipment Standards	June 1, 2019
Ocean-Going Vessel At Berth And At Anchor Regulation	Scheduled December 2019

d. Clean Air Act Section 182(e)(5) Contingency Measure Requirements

Section 182(e)(5) of the Act allows Extreme ozone nonattainment areas to include emission reductions in their attainment strategy from the anticipated development of new control techniques or the improvement of existing control technologies. These advanced technology measures are generally undefined at the time the SIP is adopted and submitted to U.S. EPA. Areas with SIPs that rely on such provisions must submit a SIP revision three years prior to the attainment year to demonstrate that the area will achieve the reductions assigned to the new technology by the attainment date, or include contingency measures to be implemented if the anticipated technologies do not achieve the planned reductions.

These contingency measures must be adequate to produce emission reductions sufficient, in conjunction with other plan provisions, to demonstrate reasonable further progress and attainment by the applicable dates. If the area fails to achieve the emission reductions due to an inability to fully implement the advanced technology provisions, U.S. EPA shall require the State to implement the contingency measures to the extent necessary.

While most of the reductions needed for attainment will come from existing control programs, California relied on these advanced technology provisions to achieve the additional increment of reductions needed to demonstrate attainment of the standard. In its 2016 State SIP Strategy CARB outlined those measures proposed for approval under section 182(e)(5). The advanced technology measures required this future flexibility in the approval process because some of the measures relied on the expenditure of future funding to achieve the pace of clean technology deployment needed. While the vehicle fleet would naturally turn over to zero- and near zero-emission technologies, the pace at which natural turnover takes place is not sufficient to meet California's emission reduction needs. In addition, flexibility was needed because significant

actions by federal and international agencies are needed to reduce those emissions from sources subject to federal regulatory authority that California lacks the authority to regulate.

Whereas 66 percent of the emissions reductions needed for attainment will be achieved from baseline measures that were adopted prior to adoption of the 2016 AQMP, the remaining emissions reductions will be achieved through the two types of measures listed below.

1. Aggregate commitment for defined measures - Enforceable commitments to take specific regulatory and programmatic actions according to a specific schedule to achieve an aggregate amount of emissions reductions by specific years, often referred to as the "aggregate commitment."
2. Section 182(e)(5) commitment for Future Deployment Measures - A commitment to achieve emissions reductions that were approved under the section 182(e)(5) provisions. These measures are the subject of this report.

e. 182(e)(5) Commitments in the 2016 AQMP

Based on the 2016 AQMP modeling analysis, an additional 45 percent NOx emission reductions is needed in 2023 to attain the 1997 8-hour ozone NAAQS. This percentage is based on meeting the "carrying capacity" of 141 tpd of NOx in 2023. To demonstrate attainment, the 2016 AQMP identified the total NOx reductions to come from: 1) defined measures by South Coast AQMD and CARB totaling 27 tpd (aggregate commitments); and 2) CARB's "Further Deployment of Cleaner Technologies" under CAA Section 182(e)(5) totaling 108 tpd. This report addresses how the 108 tpd of NOx reductions can be achieved.

Define the Challenge – emission reductions are getting harder to achieve

Existing CARB and South Coast AQMD control programs have substantially reducedprecursor emissions of ozone and will continue to do so into the future through turnover of older vehicles, engines and equipment to cleaner vehicles, engines and equipment. Through regulations adopted and implemented to date, CARB and the air districts have controlled many of the sources that had previously contributed the largest amounts of emissions. Additionally, the 2016 State SIP Strategy included commitments for cleaner heavy-duty truck standards set at the State and federal level. Therefore, regulating the remaining sources subject to State and local authority achieves incrementally smaller amounts of emissions reductions. State and local agencies continue to look to the categories and sources with the largest shares of remaining emissions for further reductions, but it has become increasingly difficult to get the levels of reductions needed from sources within the state and local agencies' authority to achieve further air quality progress.

Furthermore, the deadlines for attainment of the 80 ppb ozone and other federal standards are fast approaching, and development and full implementation of regulatory measures is not always

possible within the timeframes needed. As these deadlines approach and the amount of emissions reductions possible from new regulations decreases, reductions from voluntary incentive programs become more important in the overall strategy to achieve our attainment goals. In addition, while regulatory programs drive the introduction of cleaner technologies, fuels, and fueling infrastructure, the natural fleet turnover rate and the current pace of market development for the cleanest technologies will not be sufficient to meet California's needs. Clearly signaled, adequately funded, multiple-year incentives will be critical to drive the rapid transformation of the transportation sector to zero-emission technologies wherever feasible and near zero-emission technologies with the cleanest, lowest carbon fuels everywhere else.

In California, there are a variety of voluntary, publicly funded programs in place to encourage the development of, and incentivize the purchase of, cleaner vehicles and engines and these programs have been tremendously successful in reducing emissions. However, additional funding mechanisms, international partnering with shipping lines, research and demonstration projects, and other innovative strategies will be needed to accelerate deployment of these technologies and their related infrastructure to meet our short- and long-term goals. CARB's 2016 State SIP Strategy and related planning documents include a combination of proposed regulations and incentives designed to help shift California from a reliance on petroleum fueled vehicles and off-road equipment to zero- and near zero-emission vehicles and fuels.

Expectation for Development and Deployment of New Technologies

While advanced technologies require time to develop and commercialize, public investment through incentive programs can greatly accelerate this timeline. In addition to directly funding research, development, and deployment, significant public funding can also induce increased levels of private investment as manufacturers become more willing to increase production capacity and provide additional support, training, and infrastructure for clean technologies.

Just as there are a range of regulations, there are a range of incentives at the local, State, and federal levels that support technology advancement at the demonstration, pilot, and commercial deployment stages, or across all technology readiness levels (TRL). The figure below shows the evolution of mobile source technology in California. Public agencies provide key incentives at each level.

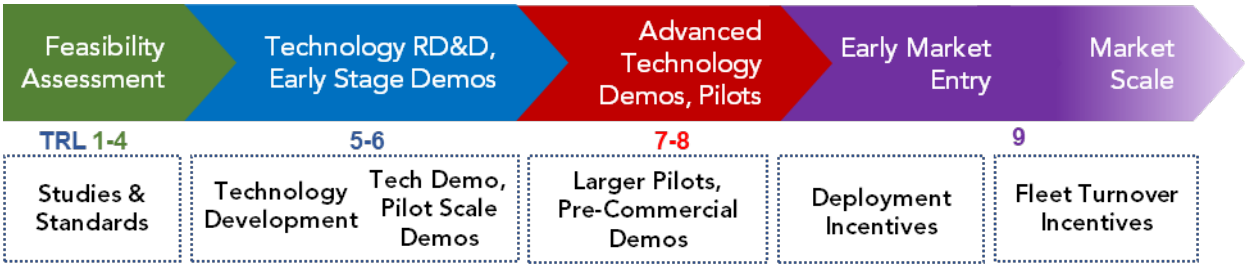

Figure 1-6
Evolution of Mobile Source Technology in California

As the above figure shows, California, through many state and local agencies, invests public funds throughout the stages of technology evolution. This approach is critical because it signals the importance that the local air districts and CARB place on the development and deployment of these advanced technologies, attracting innovators and green businesses to the state. CARB has programs in its incentive portfolio that span from pre-commercial demonstration, pilot, early commercial, and commercial phases of technology and market development.

The continued application of incentive funding throughout all stages accelerates the movement of the market toward market viability and financial stability. Especially for the heavy-duty sectors, increased incentive funding is needed well into the future to ensure that market successes are solidified and that we continue to make progress towards reaching California and South Coast AQMD's air quality goals. However, the ultimate goal for each technology application is to reach a point of financial sustainability where incentives can be phased out for that specific technology.

Without Federal Efforts, the Basin Cannot Attain the Standard

Despite the many actions being taken by the South Coast AQMD and CARB, the contribution of emissions from interstate and international sources under federal authority, coupled with limitations on local and state regulatory authority, mean that achieving the magnitude of emission reductions necessary to meet federal standards will also require strong action at the federal level. CARB and the South Coast AQMD continue to work with federal and international agencies to advocate for more stringent emission standards for sources that are not under California and local regulatory purview, but federal action has not been sufficient to meet federally mandated air quality objectives.

Achieving the emission reductions necessary from these source categories will require prompt action at the federal and international level, coupled with State and local advocacy and action to facilitate these efforts. Without considerable emission reductions from sources under federal

control, the South Coast Air Basin will not be able to reach attainment in 2023 or the subsequent attainment dates for other air quality standards.

Four Years until the Attainment Date

Given that significant levels of NOx reductions are still needed for attainment of the 1997 8-hour ozone standard in only four years, an aggressive control strategy needs to be developed and additional actions to obtain emission reductions are required. Although the magnitude of the required reductions represents a daunting challenge, every feasible action must be considered and implemented to achieve as much reductions as possible to provide healthy air for the region.

2. CONTINGENCY MEASURE PLAN

The proposed Contingency Measure Plan (CMP) outlined in this report lays out an aggressive approach for achieving the 108 tpd of NOx reductions allocated to "Further Deployment of Cleaner Technologies" under section 182(e)(5) necessary to attain the 1997 8-hour ozone standard by 2023. The CMP is comprised of three specific strategies, as described below:

1. Identified Emission Reduction Strategies – Since the adoption of the 2016 AQMP, CARB and South Coast AQMD have identified additional emission reductions that can be credited toward the section 182(e)(5) reduction commitments in 2023. These reductions are based on: a) adopted regulations, b) new regulations or programs to be adopted by 2020, c) clean mobile source technologies being implemented which were not reflected in the 2023 emissions inventory, and d) a series of innovative new measures designed to achieve further reductions. Chapter 3 provides a brief description for each of these measures.

2. Additional Incentive Funding – Additional emission reductions are expected from both the existing and new sources of incentive funding by accelerating the turn-over of existing mobile sources to cleaner technologies. Chapter 4 discusses the potential future funding sources.

3. Federal sources and federal measures – Without further reductions from federal sources (i.e., OGV, aircraft, locomotives, out-of-state trucks), which account for 36% of NOx emissions, attainment of the 1997 8-hour standard is not possible by 2023. Therefore, to achieve the balance of the section 182(e)(5) commitment, additional reductions are needed from federal sources through federal regulatory programs and/or federal incentive funding. Chapter 5 provides a list of possible federal measures and actions for reducing emissions from sources under federal jurisdiction.

Table 2.1 presents the anticipated emissions reductions for the CMP for addressing the section 182(e)(5) commitment in 2023.

Table 2-1
Contingency Measure Plan Strategies

CMP Strategy	2023 Reductions (tpd)
Identified Emissions Reduction Strategies	24-26
Additional Incentive Funding	15
Federal Measures and/or Funding	67-69
Total	**108**

3 IDENTIFIED MEASURES THAT CAN ACHIEVE REDUCTIONS BY 2023

As previously described, section 182(e)(5) of the Clean Air Act allows for Extreme nonattainment areas' attainment demonstrations to be based in part on the anticipated development of new technologies or improvement of existing control technologies. These long-term control measures are often referred to as "black box" measures and go beyond the short-term control measures that are based on known and demonstrated technologies. The 2016 State SIP Strategy includes both defined regulatory/incentive measures as well as measures identified as "Further Deployment of Cleaner Technologies" measures that do not yet have fully-defined implementation strategies (i.e., proposed under section 182(e)(5)). This section describes the newly identified measures, beyond the emission reductions quantified in the 2016 AQMP and the State SIP Strategy, to be used as contingency measures for the reductions specified under section 182(e)(5)'s "Further Deployment of Cleaner Technologies" in the State SIP Strategy.

a. South Coast AQMD Measures Providing NOx Reductions Not Included in the 2016 AQMP

The 2016 AQMP was adopted in March 2017 and approved by CARB the same month. Among the 27 control measures targeting NOx, ten have quantifiable NOx emission reductions while the reductions from the remaining control measures were left to be determined (TBD) in the AQMP. The "TBD" measures require further technical and feasibility evaluations to determine their emission reduction potential and thus, the attainment demonstration is not dependent on these measures. Emissions reductions achieved and quantified by these measures can be applied towards section 182(e)(5)'s contingency requirements.

Table 3-1 provides a list of the South Coast AQMD's identified emissions reduction strategies with reduction benefits that were not specifically quantified in the 2016 AQMP. Since the adoption of the 2016 AQMP, South Coast AQMD has taken several actions to develop rules and programs to further reduce NOx emissions. On May 4, 2018, the South Coast AQMD Governing Board directed staff to pursue various approaches with some of the Basin's largest indirect sources: a voluntary Memorandum of Understanding (MOU) approach with marine ports and commercial airports and regulatory approaches for warehouses/distribution centers, railyards and new and re-development. The MOUs with the marine ports and commercial airports will implement the facility-based mobile source measures (FBMSMs) MOB-01 and MOB-04 in the 2016 AQMP, with now quantifiable emissions reductions. In addition, pursuant to directives listed in control measure CMB-05 of the 2016 AQMP and in recently adopted state statute (AB 617), RECLAIM facilities are subject to an expedited implementation schedule to install additional BARCT no later than December 31, 2023, which accelerated the implementation schedule of CMB-05, thereby providing additional emission reduction benefits in 2023. Additional NOx emission reductions anticipated from continued implementation of existing incentive programs with future funding will also generate reductions that are surplus to

the South Coast AQMD's aggregate commitments as described in the 2016 AQMP. Also, reductions are anticipated from deployment of Metrolink's Tier 4 locomotives, which were not included in the 2016 AQMP inventory. Finally, because of the updated OGV inventory and CARB's SIP strategy for OGVs, there are surplus reductions from OGV's that can be allocated toward the section 182(e)(5) reduction commitments. Details of each identified measure are provided in subsequent sections.

Table 3-1
South Coast AQMD's Identified Measures Providing Additional NOx Reductions toward CAA 182 (e)(5) Commitments

Measure/Program	Date of Adoption/ Implementation	Emissions Reductions (tpd in 2023)
RECLAIM Transition Rules	2020	2
Facility-Based Mobile Source Measure for Commercial Airports	December 2018	0.5
Facility-Based Mobile Source Measure for Marine Ports	Early 2020	3.2 – 5.2
Incentive Funding (Expected Future Funding)	2020-2023	1.5
Metrolink Tier 4 Locomotives Conversion	Full Implementation Before 2023	3.0
Total Reductions Towards 182(e)(5) Commitment *		14 - 16

** Preliminary estimates; also includes 4.2 tons per day of reductions associated with updated OGV emissions inventory and CARB's SIP Strategy for OGV.*

RECLAIM BARCT Rules

As described in more detail under Section 1c, for SIP accounting purposes, reductions from adopted rules are first allocated to account for the reduction commitments specified under RECLAIM Rule 2002 that were part pf the 2016 AQMP baseline emissions inventory. Only surplus emission reductions beyond the baseline can be credited towards the CAA section 182(e)(5) commitment. Table 3-2 lists the anticipated rules to be adopted in 2020 that go beyond the reductions specified under RECLAIM Rule 2002. These anticipated rules include Rule 1109.1 for refinery equipment, Rule 1150.3 for landfills, Rule 1179.1 for combustion equipment and publicly owned treatment work facilities, and Rule 1146.2 for large water heaters and small boilers and process heaters. It should be noted that for the anticipated rules, the final emission reduction amounts are still being determined and will be finalized during the rulemaking process. The approximately 2 tpd of additional emission reductions from these anticipated rules will be surplus for 2023 (the 2016 AQMP CMB-05 commitment of 5 tpd is for 2025 with no credit taken for 2023) and can be credited to the section 182(e)(5) commitments.

Table 3-2
Allocation of Surplus Emission Reductions for RECLAIM Transition

	Rule	NOx Reduction in 2023 (tpd)
Rules to be Adopted in 2020	Rule 1109.1 – Refinery Equipment	2
	Rule 1150.3 – Emissions of Oxides of Nitrogen from Combustion Equipment at Landfills	
	Rule 1179.1 – NOx Emission Reduction from Combustion Equipment and Publicly Owned Treatment Work Facilities	
Rules beyond 2020	Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters	

Facility-Based Mobile Source Measure (FBMSM) for Commercial Airports

The 2016 AQMP includes South Coast AQMD's proposed Facility-Based Mobile Source Measures (FBMSMs) to help reduce emissions from indirect sources. Indirect sources are facilities that have limited direct emissions, but attract significant mobile emissions, such as airports, ports, and warehouses. Control Measure MOB-04: Emission Reductions at Commercial Airports covers emissions from non-aircraft airport-related mobile sources, including ground support equipment, shuttle buses, trucks, and on-road and off-road vehicles. In May 2018, the South Coast AQMD Governing Board directed staff to pursue a voluntary Memorandum of Understanding (MOU) approach for the non-aircraft sources at five commercial airports in the Basin - Los Angeles International Airport, John Wayne Airport, Burbank Airport, Long Beach Airport, and Ontario Airport. Following the Board's direction, South Coast AQMD established an Airport MOU working group for the development and implementation of the MOUs with the airports. The draft MOUs are developed based on the Air Quality Improvement Plans/Measures (AQIP/AQIM) that the airports have prepared, which include specific airport measures and initiatives for reducing emissions from non-aircraft sources. Under the MOUs, the airports will commit to implement specified AQIP/AQIM measures that are potentially eligible for SIP credit and provide annual reports to South Coast AQMD on the implementation of these measures. South Coast AQMD will be responsible for quantifying the emissions benefits for these potential SIP creditable measures and making up any emission reduction shortfall.

The FBMSM for commercial airports is expected to achieve 0.5 tpd of NOx emission reductions in 2023 based on the implementation of SIP creditable AQIP/AQIM measures, which primarily focus on ground support equipment but also include additional measures for shuttle buses and

vehicles/trucks. For ground support equipment, the airports are establishing airport-specific emissions performance targets (i.e., grams of NOx/HC per horsepower hour) in 2023 and 2031, which would require transitioning to cleaner or zero-emission equipment. For shuttle buses and vehicles, zero-emission or near-zero-emission vehicles are being proposed.

Facility-Based Mobile Source Measure for Marine Ports

The 2016 AQMP also includes Control Measure MOB-01: Emission Reductions at Commercial Marine Ports. This measure covers emissions from port-related mobile sources, including drayage trucks and cargo handling equipment. In May 2018, the South Coast AQMD Governing Board directed staff to pursue a voluntary Memorandum of Understanding (MOU) approach for the Ports of Los Angeles and Long Beach. The MOU will include specific measures from the Ports' 2017 Clean Air Action Plan (CAAP) update, with the goal of obtaining SIP creditable emission reductions from those measures. Following the Board's direction, South Coast AQMD established a Technical Working Group (TWG) to develop methodologies and quantify emissions benefits associated with the implementation of CAAP measures. The TWG is comprised of representatives from South Coast AQMD, CARB, U.S. EPA, Ports of Los Angeles and Long Beach, Coalition for Clean Air, Sierra Club, Pacific Merchant Shipping Association, and California Trucking Association. In addition, a Ports MOU working group has been established to track the development and implementation of the MOU. Under the MOU, the Ports will commit to implement specified CAAP measures with South Coast AQMD committing to quantify the emission benefits and make up any emissions reduction shortfall.

In addition, the Ports of Los Angeles and Long Beach have been implementing a voluntary incentive-based Vessel Speed Reduction (VSR) Program and Green Flag Incentive Program, respectively, over the last several years. Under these programs, the Ports offer monetary incentives to shipping lines that reduce their transiting speeds to 12 knots within 20 nautical miles and 40 nautical miles of Point Fermin. The benefits of the Ports' VSR programs, included in the 2016 AQMP inventory, were based on the Ports implementation of the VSR programs in 2014. However, with continued improvements in the VSR Program, the Ports have reported higher compliance rates in 2017. Based on the 2017 VSR compliance rates reported by the Ports, the surplus NOx reductions are estimated to be 0.2 tpd in 2023.

The Ports MOU is estimated to achieve 3.2 to 5.2 tpd of NOx emission reductions in 2023 based on the implementation of proposed SIP creditable CAAP measures, primarily focusing on drayage trucks and potentially on cargo handling equipment. Under the proposed updates to Clean Truck Program, a rate will be charged to the beneficial cargo owners for heavy-duty trucks with loaded containers entering or exiting the Ports' terminals, with possible exemptions provided for zero and near-zero emission trucks. The revenues to be collected through the assessment of the rate will be used as incentives for fleets to replace their existing trucks with

zero and near-zero emission trucks. As for cargo handling equipment, the emission reductions are largely associated with electrifying terminal equipment, including on-going modernization projects at several terminals. The estimated reductions from cargo handling equipment are yet to be quantified.

Additional Emission Reductions from Incentive Funding (existing funding sources)

The 2016 AQMP highlighted the need for a significant level of incentive funding to achieve additional reductions in a timely manner. The 2016 AQMP provides an analysis of the incentive funding levels that will be needed to achieve the emission reductions associated with the State SIP Strategy "Further Deployment of Cleaner Technologies" measures if no other actions occur. The total amount of funding needed to achieve the 2023 NOx emission reductions identified in the State Mobile Source Strategy ranges from $4.3 billion to as high as $14 billion depending on the types of funding programs implemented and which mobile source sectors will be more cost effective to reduce emissions. California and the South Coast AQMD have a long history of successful implementation of incentive programs that help fund the accelerated deployment of cleaner engines and after-treatment technologies in on-road heavy-duty vehicles and off-road mobile equipment. Such accelerated deployment not only results in early emission reductions, but also provides a signal to technology providers, engine and automobile manufacturers, and academic researchers to develop and commercialize the cleanest combustion engines possible and further the efforts to commercialize zero-emission technologies into a wider market. Some of the major incentive sources include:

- Carl Moyer Memorial Air Quality Standards Attainment Program (SB1107 and AB 923)
- AB 118 – California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007
- Proposition 1B – Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006
- Low Carbon Transportation Funding (Greenhouse Gas Reduction Fund)
- AB 2766 – Motor Vehicle Fee Program
- South Coast AQMD Clean Fuels Program
- South Coast AQMD Rule 2202 – On-Road Motor Vehicle Mitigation Options
- AB 617 and AB 134

Since the adoption of the 2016 AQMP, the South Coast AQMD has implemented a range of incentive funds available to local fleets to accelerate implementation of lower emitting technologies, and provided outreach to support cleaner technologies. Table 3-3 lists the number of affected mobile source equipment and emission reductions in tons per year (tpy) for projects approved in 2018. This serves to demonstrate South Coast AQMD's ability to implement

incentive programs in the region, and that incentive programs are an effective means to generate emission reductions.

Table 3-3
Summary of South Coast AQMD's Board Approved
Incentive Programs in 2018

Program	Funding Amount	No. of Equipment	NOx (tpy)	PM2.5 (tpy)
Carl Moyer & SOON	$35,559,645	558	415	7.8
AB 134	$49,060,072			
Near-Zero Trucks with CEC Grant, Ports, and AB	$14,000,000	140	63.2	_
Near-Zero Emission School Buses	$35,638,000	206	27.1	1.5
EFMP	$8,257,730	1,023	14.4	--
Voucher Incentive (VIP)	$2,745,000	65	44.2	0.12
TOTAL	**$ 145,260,447**	**1,992**	**563.9**	**9.42**

In the last few years, the South Coast AQMD and its State and regional partners implemented around $100 to $200 million per year in incentives funding. Since the 2016 AQMP, actions have been undertaken to secure a significant sustainable level of funding revenue. Table 3-4 provides a summary of reasonably expected future funding for the major incentive programs in the Basin that are estimated to be about $800 million of funding over the next 3-4 years.

Based on the expected future funding of approximately $800 million over the next 4 years, about 12 tpd of NOx reductions are expected to be achieved by 2023. After fulfilling South Coast AQMD's aggregate commitments for 2016 AQMP control measures MOB-10, MOB-11 and MOB-14, the remaining surplus reductions are estimated at approximately 1.5 tpd of NOx emissions in 2023 that can be used for the South Coast AQMD's section 182(e)(5) commitments.

Table 3-4
Summary of Reasonably Expected Future Funding

Funding Source	Expected Funding
Carl Moyer	$40-$50 million per year
AB 617-related Incentives	$80-$90 million per year
AB 2766	$22 million per year
Mobile Source Air Pollution Reduction Review Committee	$17 million per year
Volkswagen Settlement	$67 million (total)
Prop 1B	$30 million (total)

Based on the expected future funding of approximately $800 million over the next 4 years, about 12 tpd of NOx reductions are expected to be achieved by 2023. After fulfilling South Coast AQMD's aggregate commitments for 2016 AQMP control measures MOB-10, MOB-11 and MOB-14, the remaining surplus reductions are estimated at approximately 1.5 tpd of NOx emissions in 2023 that can be used for the South Coast AQMD's section 182(e)(5) commitments.

Metrolink Tier 4 Locomotives Conversions

The South Coast AQMD Governing Board has awarded Metrolink a total of $101.85 million since February 2013 for the replacement of 37 older locomotives (Tier 0 & Tier 2) with Tier 4 locomotives and the new purchase of three Tier 4 locomotives. As of September 2019, 27 Tier 4 locomotives have been delivered to Metrolink with 23 units deployed in revenue service or undergoing shakedown testing. Metrolink anticipates all 40 Tier 4 locomotives will be deployed in service by the end of 2020. Upon full deployment, Metrolink will operate 40 train sets with Tier 4 locomotives. Metrolink will retain several Tier 2 locomotives as spare or standby units to fill in during scheduled and unscheduled maintenances for the Tier 4 locomotives. Based on the preventive maintenance schedule, Metrolink anticipates at least three Tier 4 units will be out of service at a time, with the normal operation cycle including 37 Tier 4s and 3 Tier 2s in service on a daily basis. The emission reductions from the Tier 4 conversions and the purchase of the new Tier 4 locomotives, which are surplus to the 2016 AQMP inventory, are estimated to be 3 tpd in 2023.

Updated OGV Inventory and SIP Strategy

During the development of the 2016 AQMP, the emissions inventory was frequently updated to incorporate the latest available information and methodologies. The Draft 2016 AQMP was first released to the public for review and comment in June 2016, and a Revised Draft 2016 AQMP was subsequently released in October 2016. Both of these documents incorporated the best available emission inventory at the time of their development. In the last quarter of 2016, the emissions for OGV were updated with significant increases of NOx emissions in future years, primarily due to the delayed introduction of Tier 3 engines in California waters. However, there was not enough time to incorporate the emissions inventory update in the attainment demonstration for the various federal standards addressed in the 2016 AQMP. To ensure that attainment could still be achieved, the State SIP Strategy was revised with increased emission reductions commitments in the OGV category to accommodate the changes in OGV emission inventory that were not reflected in the 2016 AQMP SIP submittal.

In 2018, CARB adopted the 2018 Updates to the California State Implementation Plan (2018 SIP Update) in response to recent court decisions related to ozone reasonable further progress baseline inventory years and contingency measures. The 2018 SIP Update includes an updated emission inventory incorporating the changes in the OGV category. As a result, the 2023 baseline emissions for OGV has been increased from 23 tpd to 37 tpd in the South Coast Air Basin (within 100 nautical miles). After incorporating the OGV inventory updates into the attainment demonstration, it was discovered that the emission reductions commitment for the OGV category in the 2016 AQMP and State SIP Strategy was higher than needed, with an additional 4.2 tpd of NOx emission reductions beyond the projected carrying capacity of 141 tpd. Therefore, to reflect the most up-to-date emissions inventory and control strategy, a 4.2 tpd of NOx reductions is realized from the over-commitment in the 2016 AQMP and State SIP Strategy.

Residential and Commercial Sectors

Despite existing stringent regulations for many sources, the attainment of the 1997 8-hour ozone standard will require extensive deployment of zero and near-zero NOx emission technologies in all sectors. For the residential and commercial sectors, there are opportunities to require and accelerate the replacement of existing equipment with cleaner zero- or near-zero emissions alternatives. Reducing, managing, and changing the way energy is used in the commercial and residential sectors can also provide additional emission reductions, reduce energy costs, and provide multiple environmental benefits. The 2016 AQMP includes control measures for the applications of zero or near-zero NOx emissions appliances in the residential and commercial sector (CMB-02), additional enhancement in reducing energy use in existing residential buildings (ECC-03), and co-benefits from existing residential and commercial building energy

efficiency mandates (ECC-02). These three control measures together anticipate 2.6 tpd of NOx reductions by 2023. South Coast AQMD will continue to evaluate opportunities for additional feasible NOx reductions in existing and new residential and commercial buildings, including potential rulemaking in the 2020-2022 timeframe. Any potential surplus reductions achieved beyond the South Coast AQMD's aggregate reduction commitments in 2023 can be applied toward the reductions claimed under section 182(e)(5) measures and attainment in 2023.

b. CARB Regulations Providing NOx Reductions Not Included in the 2016 AQMP

In addition to those measures that were defined in the State SIP Strategy, CARB is implementing new measures that will achieve reductions toward California's section 182(e)(5) commitment. These measures are listed in the Table 3-5 with descriptions following.

Table 3-5
CARB New Mobile Source Measures toward Section 182(e)(5) Commitment

Measure	Date of Adoption (Expected)	Achieved NOx Emissions Reductions in 2023 (tpd)
Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation	September 2018	1.7
ATCM for Portable Engines, and the Statewide Portable Equipment Registration Program Regulation	November 2017	0.25
HD Inspection and Maintenance (I/M) program	(Early 2020)	4.2
Total Mobile Source Reductions Towards Section 182(e)(5) Commitment		6.15

Low Carbon Fuels Standard Amendment

On September 27, 2018, the CARB Board approved amendments to the Low Carbon Fuel Standard (LCFS), which strengthens and smooths the Carbon Intensity (CI) benchmarks through 2030 in-line with California's 2030 GHG target enacted through SB32. The LCFS transforms and diversifies the fuel pool in California to reduce petroleum dependency and achieve air quality benefits. The LCFS is a key part of a comprehensive set of programs in California to reduce emissions from the transportation sector.

The LCFS sets annual CI standards, or benchmarks, which reduce over time, for gasoline, diesel, and the fuels that replace them. The new fuels will not only lower GHGs but also improve California's air quality relative to current (2016) conditions and to the business-as-usual

scenario. The total statewide NOx and PM2.5 emissions are estimated to be lower in each year from 2019 through 2030.

ATCM for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater, and the Statewide Portable Equipment Registration Program Regulation

On November 16, 2017, CARB approved amendments to the Portable Equipment ATCM and PERP Regulation (PERP Regulation). The PERP Regulation requires operators to upgrade their equipment by 2020 to meet emissions requirements. The PERP Regulation was designed to force the development of retrofit emissions control technologies and new engine technologies to meet regulatory requirements. Some of these technologies materialized and some did not. Because some technologies did not develop as anticipated, the current PERP Regulation requirements are financially and, in some cases, technologically infeasible. The new PERP Regulation restructures the emissions requirements so that implementation and enforcement of the regulation is feasible, the regulated fleets can comply, and emissions reductions are achieved.

Heavy Duty Truck Inspection and Maintenance Program

Scheduled for consideration by CARB in early 2020, the Heavy-Duty Truck Inspection and Maintenance Program (HD I/M program) will be designed to incentivize vehicle owner and driver behavior to ensure that heavy-duty vehicles are well maintained and properly repaired.

In California, heavy-duty diesel vehicles with a gross vehicle weight rating over 14,000 pounds represent one of the largest sources of mobile air pollution. 2019 estimates indicate that these vehicles contribute approximately 58 percent of the statewide on-road mobile source NOx emissions. Some of these emissions are attributed to broken or failing emissions-related equipment.

CARB's existing heavy-duty inspection programs rely on random field inspections by CARB staff and annual self-inspections by truck owners to test for smoke opacity levels. However, these programs do not ensure that vehicle owners are regularly inspecting and repairing their vehicles' broken emissions controls. The HD I/M program will ensure that vehicles' emissions control systems are operating as designed to reduce emissions, and also remove gross polluting HD vehicles from the roads.

c. CARB Innovative New Measures

California has identified additional, innovative measures beyond those regulations identified above that were not identified in the 2016 AQMP and State SIP Strategy, but have been adopted, or are soon to be adopted by CARB. These actions are more innovative in nature and represent a next-level effort to continue to reduce emissions in the Basin. In some cases, these measures go

beyond the historical model of programs and regulations and represent the level of transformation needed of every sector to achieve clean air. These measures are described below.

Tier 5 Off-Road Diesel Engine Standard

CARB has adopted four increasingly stringent tiers of regulations to reduce emissions from off-road diesel engines since 1995 to minimize the adverse health effects of diesel emissions. However, it has been almost 14 years since the off-road diesel standards were last updated (Tier 4 in 2005), which now lag behind the European Stage V nonroad diesel standards in stringency. As a result, the emissions contribution from off-road diesel engines continues to increase and will exceed the contribution from on-road diesel engines by 2025, making off-road diesel the single largest source of mobile NOx emissions in California. This measure would include adopting more-stringent standards that reduce NOx and PM emissions by up to 90% below the current Tier 4 standards, as well as potential requirements to offer off-road vehicles with zero-emission technology for sale.

State Green Contracting

California's State Transportation Agency spends approximately $5 billion annually on building and maintaining California roads. In addition, the State government purchases new vehicles and equipment each year. This measure would consider requiring State contractors to use the cleanest equipment available in order to be considered for these contracts and State agencies to purchase the cleanest vehicles and equipment that are available. This measure builds on Governor Newsom's recent directive for State government to immediately redouble efforts to reduce greenhouse gas emissions and mitigate the impacts of climate change while building a sustainable, inclusive economy.

Reduction in Growth of Single-Occupancy Vehicle Travel

This measure would consider applying a regional transportation system pricing program in conjunction with requirements to use the generated funding to encourage people to take public transit, carpool, bike, walk, and/or adjust trip times at congested times of day. The regional pricing program would implement a suite of regional and locally focused pricing strategies for use of certain lanes, driving into certain areas, parking in prime locations, driving at peak times, and/or utilizing non-pooled ridehailing services. Funds generated from the program must be used to either encourage use of existing identified clean transportation options or to provide additional clean transportation options. Some examples include, but are not limited to: reducing the cost of transit via transit passes, providing rebates for e-bikes, providing lower cost or reserved parking spaces for carpools, educating the public about the availability of per-mile car insurance pricing options, and providing traveler incentives to encourage travel at times when roads are less congested.

Locomotive Emission Reduction Measure

CARB is evaluating concepts for a potential regulation to reduce criteria, toxics, and greenhouse gas emissions from locomotives. These concepts address in-use locomotive emissions, idling, and maintenance activities. The potential regulation includes elements that could be implemented at the state and/or district level.

Previously, state action to limit rail emissions has been through enforceable agreements. Although a regulation will take more time to implement than an agreement, it will not sunset like previous MOUs, it will be more transparent in its development, it will be enforceable, and it will achieve additional emissions reductions.

Specifically, one of CARB's concepts, called the Locomotive Emissions Reduction Spending Account, requires that the Class 1 railroads set aside funds each year to purchase Tier 4 or cleaner locomotives. The amount to be set aside is based on the usage of Tier 3 and lower (dirtier) locomotives in California. The charge increases with the emissions level of the locomotive used, which should encourage cleaner locomotive operation within the state. The Account could begin implementation by the end of 2022, with potential PM and NOx reductions achieved by the end of 2023. Note, CARB staff will coordinate with the South Coast AQMD to ensure this measure does not duplicate the FBMSM for railyards.

VMT and Land Conservation

Integrating land and transportation strategies can have synergistic effects and help the state further reduce both criteria and greenhouse gas emissions by protecting land-based carbon while providing simultaneous reductions in emissions from transportation. Protection of lands that are at risk of conversion to urban or rural development through use of conservation easements or the implementation of local and regional planning policies that protect land from development result in the extinguishment of development rights, thereby avoiding increases in VMT by limiting opportunities for expansive, vehicle-dependent forms of development. Currently, only some sustainable community strategies in regional transportation plans explicitly include conservation and management of natural and working lands. While cities and counties across California have developed local and county climate action plans to reduce GHG emissions and increase climate resilience, few capture the potential GHG reductions from conserving, restoring, and managing Natural Working Lands. Although limited research is available on the direct effect of land conservation on VMT, the State is expanding efforts to understand the relationship and synergies of taking an integrated cross-sector approach.

Regional VMT Reductions

Today's California is shaped by historic patterns of growth in transportation and housing. While we have grown to be the fifth largest economy in the world, our residents, in search of an

affordable place to live, and with insufficient transportation options, are too often left with little choice but to spend significant time and money driving from place to place. Where we put transportation and housing also imposes and often reinforces long-standing racial and economic injustices by placing a disproportionate burden on low-income residents, who end up paying the highest proportion of their wages for housing and commuting. Staff and elected officials of local, sub-regional, regional, and state government bodies all have critical authorities and roles to contribute and could take steps to improve these outcomes, but so far, have not been able to enact the magnitude of change needed given the state's current structure of incentives, political forces, and policy restrictions. There are unique opportunities for elected officials to improve the transportation sector to reduce emissions and help with attainment of health-based air quality standards in the South Coast.

Co-Benefits from Electrification of Buildings due to 2017 Climate Change Scoping Plan

Buildings contribute directly to emissions when fuel (primarily natural gas) is combusted on-site for space and water heating. As grid electricity in California transitions to 100 percent clean energy, building electrification can reduce fuel combustion emissions in buildings. The framework for this measure is contained in Alternative 1 of the 2017 Climate Change Scoping Plan, and includes measures pertaining to appliance technology substitution; demand reduction; electrical efficiency in industry, agriculture, residential, and commercial lighting; and residential air conditioning, freezing, and refrigeration. An implementation framework for building electrification would consider mechanisms to require and incentivize early retirement/replacement and new installations of residential and commercial water heating, space heating, and air conditioning appliances with zero or near-zero emission technologies such as high efficiency electric heat pumps. Quantification of surplus emission reductions in this sector must consider the 2016 AQMP commitments as well as any additional South Coast AQMD regulatory actions.

4. ADDITIONAL INCENTIVE FUNDING THROUGH SOUTH COAST AQMD'S STATE LEGISLATIVE EFFORTS

South Coast AQMD has been making sustained efforts locally and with the state legislature to seek funding to implement the 2016 AQMP for the South Coast region and will continue to do so going forward. The 2016 AQMP calls for over $1 billion per year in incentive funding for clean vehicles, infrastructure, and equipment.

In 2017, the South Coast AQMD sponsored AB 1274 (O'Donnell), which was signed into law. Beginning in 2019, this bill creates annual smog abatement fees that are transferred to the Carl Moyer Program for more effective reductions in diesel particulate matter and nitrogen oxide emissions. This bill is anticipated to create a sustainable funding source of about $25-30 million annually for the South Coast region. Also, through budget trailer bill AB 134, South Coast AQMD received a one-time allocation of $107.5 million in Greenhouse Gas Reduction Fund (GGRF) monies for increased Carl Moyer Program funding for incentives to accelerate turnover to cleaner vehicles and equipment and reduce criteria air pollutant and toxic air contaminant emissions in the South Coast region.

In 2018, as a result of budget trailer bill SB 856, South Coast AQMD ultimately received a one-time allocation of about $86 million in GGRF funding for AB 617 incentives to accelerate turnover to cleaner vehicles and equipment and reduce criteria air pollutant and toxic air contaminant emissions that will benefit disadvantaged communities within the South Coast region that are in the AB 617 program or are being considered for that program in future years.

In 2019, as a result of budget bill AB 74 (Ting), South Coast AQMD is expected to again receive a one-time allocation of about $86 million in GGRF funding that shall be available for financial incentives to reduce mobile and stationary sources of criteria air pollutants or toxic air contaminants within the South Coast region, consistent with community emissions reduction programs developed pursuant to the AB 617 program and its statutory requirements (Section 44391.2 of the Health and Safety Code).

Moving forward, through 2023, several funding sources will be advocated for including: (1) GGRF funds, (2) Statewide Bond Funding, and (3) The Voting District Authorization for Clean Air legislation, SB 732 (Allen).

1. GGRF - Given that the South Coast region already has three approved communities in the AB 617 program and is likely to add 2 more in 2020, South Coast AQMD will be advocating for at least $150 to $200 million in sustainable annual GGRF monies for incentive funding going forward, to benefit disadvantaged communities within the South Coast region that are in the AB 617 program or are being considered for that program in future years.

2. Statewide Bond Funding – Currently, there are multiple pieces of state legislation that would result in bond measures for the statewide ballot (e.g. AB 352 (E. Garcia); AB 1298 (Mullin); and SB 45 (Allen)), that include funding at around the $4 billion level, for purposes that include the funding of zero-and near-zero-emission vehicle technologies and infrastructure. These bills are expected to be consolidated into one primary bond bill in 2020 and represent a potential substantial source of incentive funding to benefit air quality within the South Coast region. South Coast AQMD staff will be working with the California Air Pollution Control Officers Association (CAPCOA) to secure a portion of these bond monies for incentive funding for local air districts, including in the South Coast region, to reduce air pollution and facilitate attainment of federal air quality standards.

3. Voting District Authorization for Clean Air Legislation, SB 732 (Allen):

    - South Coast AQMD is currently sponsoring state legislation, SB 732 (Allen), which seeks authorization from the Legislature to create a voting district in the South Coast region to allow local funding measures to be placed on the ballot. The bill allows the people of the South Coast region to decide for themselves whether they want to invest in clean air and address climate change. Once the bill passes the state legislature and is signed into law, it would allow a sales tax measure to be put on a ballot within the South Coast region, either by voter initiative or by South Coast AQMD Board action.

    - This bill could result in the South Coast region receiving a sustainable source of funding in the amount of about $1.4 billion per year, to be used primarily for incentive funding for clean vehicles, infrastructure, and equipment to facilitate implementation of the 2016 AQMP and future AQMPs within the South Coast region.

Further, South Coast AQMD will continue working hard to explore all additional options, as needed, to help secure sufficient funding to implement the 2016 AQMP and attain federal air quality standards in the South Coast region.

The anticipated future funding of $1.4 billion from the Voting District Authorization bill per year is expected to generate 15 tpd of NOx reductions in 2023. Using detailed on-road and off-road vehicle populations (including by horsepower bin and model years), vehicle utilization (e.g., miles/year or horsepower-hours/year), and emissions data from CARB's EMFAC and ORION databases, staff calculated the potential emission reductions from future incentive funding programs. Incentive funding levels per vehicle/equipment type and fuel type (e.g., natural gas, electric, etc.) were estimated by analyzing South Coast AQMD's historical and current implementation of funding programs such as Carl Moyer and HVIP. The calculation ranked each vehicle category by cost-effectiveness (dollars per ton of NOx reduced in 2023) and

assumed that the entire population of that category would be funded before moving on to the next most cost-effective category, and so on, until total available funding was utilized.

5. FEDERAL MEASURES AND FEDERAL RESPONSIBILITY

a. California Lacks Direct Regulatory Authority Over Significant Sources of Emissions

Emission reductions from mobile sources rely on regulatory actions by CARB, Bureau of Automotive Repair (BAR), and U.S. EPA. California's authority to regulate mobile sources varies by category and circumstance. Under California law, CARB can set new engine standards for mobile sources, but federal preemptions and practical limitations apply to many diesel engine categories. For example, under the federal Clean Air Act, only U.S. EPA can set new engine standards for interstate trucks, locomotives, airplanes and construction and farm equipment equipped with off-road engines less than 175 horsepower.

In the case of new heavy-duty diesel trucks and other new and in-use off-road engines, CARB may establish emission standards, but must obtain a waiver/authorization from U.S. EPA before it can enforce such regulations. With a waiver to establish its own truck standards, California can achieve reductions from trucks sold within the State. However, the interstate nature of trucking means that many of the trucks operating in the Basin on any given day are not subject to California's new engine emissions standards. This makes national standards for new trucks operating in California a practical necessity for achieving healthy air for the residents in the Basin. With regard to emissions from shipping, we further recognize that U.S. EPA has the responsibility to represent California's interests in the international standard setting process for OGVs. In short, California must rely on federal action to set the new technology standards that will accelerate cleanup of legacy diesel fleets.

Table 5-1
Sources under Federal and International Control

New heavy-duty trucks and engines sold outside of California
Locomotives (passenger and freight)
All aircraft engines (U.S. EPA advocates to the International Civil Aviation Organization)
Construction and agricultural equipment under 175 horsepower
Ocean-going vessels (U.S. EPA advocates to the International Maritime Organization)

Given that California is required by federal law to reduce NOx emissions in the Basin to a sufficient level to meet the 80 ppb ozone standard, and that federal sources under federal and international control (OGVs, locomotives, aircraft, interstate trucks and some offroad equipment) are projected to account for over one third of the NOx emissions in the attainment year, it is appropriate and necessary to include measures that get reductions from these sources. In addition, given that the State is pushing the boundaries of technology to develop

measures to reduce emissions from mobile sources under State control, the following federal measures are achievable and necessary to provide the NOx reductions from federal and international sources to meet the healthy air goals set by federal law.

b. NOx Emissions from Sources Under Federal Responsibility are an Increasing Portion of the Inventory

Over the last two decades, despite significant increases in population and vehicles, air quality has improved drastically in the Basin largely due to the implementation of emission control measures by the South Coast AQMD and CARB. As a direct result of California's programs (including newly identified emission reduction strategies in this contingency measure plan), California is anticipated to slash emissions by 83% for sources under California's authority between 2002 and 2023. Table 5-2 shows the magnitude of emission reductions that California has achieved since the 2007 AQMP – the first AQMP designed to achieve the 1997 standard. In 2002, the base year of the 2007 AQMP, NOx emissions under California's authority were at 761 tpd. Through rigorous rules and regulations, as well as incentive programs, the emissions were projected to be 172 tpd in 2023. In the 2016 AQMP, CARB and the South Coast AQMD committed to reduce 27 tpd of NOx emissions by 2023 through a series of defined measures. In this Contingency Measure Plan, CARB and the South Coast AQMD have identified additional defined measures to reduce NOx emissions for at least another 16 tpd by 2023, leaving 129 tpd of NOx emissions under California regulated sources in 2023.

Table 5-2
Reductions in NOx Emissions for Sources under California's Authority

	Sources under California's Authority	Attainment Scenario
2002 NOx Emissions (baseline emissions incorporating existing rules and regulations)	761 tpd	761 tpd
2023 NOx Emissions (future baseline emissions incorporating existing rules and regulations)	172 tpd	-
2023 Controlled NOx Emissions (controlled emissions incoporating exisiting rules and regulations, aggregate committments, and identified emission reductions)	129 tpd*	-
2023 Carrying Capacity	-	141 tpd
Percentage Reductions from 2002 to 2023	83%	81%

** Includes 27 tpd of defined reduction commitments in the 2016 AQMP and 16 tpd of newly identified emissions reductions in the Contingency Measure Plan*

As shown above, using its authority, California has been doing its part to protect air quality. In fact, California's NOx reductions of 83% has exceeded its fair share for what is needed to meet the carrying capacity (81%, Table 5-2). In contrast, U.S. EPA has not done its part. Due to limited action from U.S. EPA, pollution from sources over which it has been given substantial responsibility — including interstate trucks, aircraft, locomotives, ocean-going vessels, and off-road equipment — had not been reduced to the extent that is needed to reach attainment. Traditionally, NOx emissions from sources outside of California's control were a relatively small portion of the total NOx inventory in the State. For example, in 2000, emissions from interstate trucks, aircraft, trains, ocean-going vessels, and some off-road engines together made up approximately 20 percent of California's total NOx inventory.

As California adopted programs to control NOx emissions from sources under State and local air district authority, the share of NOx emissions from sources under federal and international control has increased. For example, those same sources – interstate trucks, aircraft, locomotives, OGVs, and some off-road engines – will be responsible for 36 percent of the NOx emissions in 2023. While total NOx emissions will decrease in the South Coast by almost 50 percent from 2012 levels in 2023, almost all of these reductions are from sources under California regulatory authority. For example, over this time NOx emissions from light-duty vehicles will be reduced by over 70 percent. Meanwhile, NOx emissions from aircraft, locomotives, and ocean going vessels will grow by almost 10 percent over this same period.

Because out-of-state heavy-duty vehicles operating in the South Coast are a significant part of the fleet, timely federal action to implement a national low-NOx performance standard is necessary to achieve an in-use fleet average that provides the emission reductions from heavy-duty trucks needed for ozone attainment. A federal standard would be able to ensure that all trucks traveling within California would eventually be equipped with an engine meeting the lower NOx standard, while emission reductions resulting from California-only regulations would come mostly from Class 4-6 vehicles (as most miles traveled by Class 7 and 8 vehicles operating in California were originally purchased outside the State). The preponderance of interstate trucking's contribution to in-state VMT, especially within the heavier truck categories, means that a federal low-NOx standard would be substantially more effective at reducing in-state emissions than a California-only standard. Although EPA is currently working on revising the NOx emission standards for heavy-duty trucks, it appears that emission reductions will not occur before 2027.

Timely federal action is also needed on locomotives and ocean going vessels. EPA has also been petitioned to act on locomotives but has to date failed to initiate rulemaking. Given the severity of South Coast AQMD's ozone air quality problem, and the level of reductions needed by 2023 to meet the 80 ppb ozone standard, NOx reductions from these sources are paramount and necessary to achieve clean air. While federal regulatory actions to achieve the remaining level of

reductions for attainment in 2023 would provide assurance that the reductions are achieved, in lieu of this, significant federal incentive funding could also result in emissions reductions from the federal sources.

c. Defined Measures to Reduce NOx from Federal and International Sources

California has identified the following actions regarding sources under federal and international control that are needed to usher in the cleanest technology and to address these sources' emissions, which are either increasing or not keeping pace with reductions in other sectors in the Basin. These measures represent the transition to cleaner technologies that is needed in all sectors to achieve the goals set forth in this document and to achieve air quality standards in the future. The emissions reductions from these measures represent complete transitions of these fleets and the maximum potential reductions from these sources. Thus, they may achieve more reductions than necessary to meet the standard if every single measure were implemented to the maximum extent. In any case, some combination of these federal measures are necessary, through regulations, incentives or other means, for California to achieve the final increment of emissions reductions needed to meet the 1997 ozone standard. These measures and the extent of the NOx emissions reductions that can be achieved from them are summarized in the Table 5-3. More developed measures follow in the next section. While the first federal measure addressing heavy duty diesel trucks is reliant on U.S. EPA adopting a low-NOx truck standard for all new trucks, each of the federal measures described below includes turnover of existing fleet to the cleanest technology. The accelerated penetration of the clean technology into the fleet could be implemented via regulation, incentives, voluntary agreements, or a combination of these approaches. We estimate that it could cost approximately $6 billion to achieve emission reductions from sources under federal authority / responsibility as described below.

Table 5-3
Potential Federal Measures

Measures	Measure Description	2023 NOx Reductions (tpd)
Low-NOx Heavy-Duty Vehicles	Heavy-duty vehicles (above 14,000 lbs. GVWR) powered by low-NOx standard in 2023	Up to 35
Low-NOx Ocean-Going Vessels	Ocean-going vessels coming to California powered by Tier 3 engines in 2023	Up to 28
Low-NOx Locomotives	Locomotives coming to California powered by Tier 4 engines in 2023	Up to 11
Low-NOx Aircraft	Aircraft NOx reductions assumption of 20% if emissions are held at 2012 levels.	Up to 4
Total Reductions		**Up to 78**

i. Accelerate Implementation of Federal Low-NOx Heavy-Duty Truck Standard

Description of Source Category

This measure addresses low-NOx engines for onroad heavy-duty engines used in class 4 through 8 medium-and heavy-duty trucks. Most of the NOx emissions from heavy-duty engines come from diesel engines, especially in the higher weight classes. Gasoline and natural gas Otto cycle spark-ignited engines are also used in heavy-duty trucks, to a lesser extent, and primarily in the lower weight classification vehicles. Medium and heavy-duty trucks are currently the fastest growing transportation sector in the United States, and are responsible for 25 percent of South Coast's NOx emissions.

Background / Regulatory History

California is the only state with the authority to adopt and enforce emission standards for new motor vehicle engines that differ from the federal emission standards. Since 1990, heavy-duty engine NOx emission standards have become dramatically more stringent, dropping from 6 grams per brake horsepower-hour (g/bhp-hr) in 1990 down to the current 0.2 g/bhp-hr standard, which took effect in 2010. Starting in 2015 in California, engine manufacturers could certify to three optional NOx emission standards of 0.1 g/bhp-hr, 0.05 g/bhp-hr, and 0.02 g/bhp-hr (i.e., 50 percent, 75 percent, and 90 percent lower than the current mandatory standard of 0.2 g/bhp-hr). The optional California standards allowed local air districts and CARB to preferentially provide incentive funding to buyers of cleaner trucks, which encouraged the development of cleaner engines. While California has the authority to regulate the engine standards for trucks sold in California, about 60 percent of total heavy-duty vehicle miles traveled in the South Coast on any given day are by trucks that were purchased outside of California. For this reason, it is critical that U.S. EPA establish a new national low-NOx standard for heavy-duty trucks. In response to petitions for a low-NOx rulemaking from over 20 organizations including state and local air agencies from across the country, on November 13, 2018, U.S. EPA announced the "Cleaner Truck Initiative" to develop regulations to further reduce NOx emissions from on-road heavy-duty trucks and engines. However, it is not clear whether the proposed rulemaking will result in early reductions.

Proposed Actions

With a federal low-NOx standard for all new heavy-duty trucks sold nationwide proposed to begin in 2024, all trucks traveling within California would eventually be equipped with an engine meeting the low-NOx standard. However, to meet the 2023 ozone standard, all heavy-duty trucks above 14,000 lbs. operating in the Basin must have low NOx engines by 2023. U.S. EPA would thus need to adopt the low-NOx standard to be in effect in 2022 and develop a

strategy, through incentives or other actions, to turn over the fleet of vehicles registered outside of California and operating in the Basin ahead of the mandated standard.

Possible Emission Reductions: Up to 35.7 tpd of NOx

ii. Accelerate Implementation of Tier 3 Ocean Going Vessels

Description of Source Category

OGVs are large vessels designed for deep water navigation and include large cargo vessels such as container vessels, tankers, bulk carriers, and car carriers, as well as passenger cruise vessels. These vessels transport containerized cargo; bulk items such as vehicles, cement, and coke; liquids such as oil and petrochemicals; and passengers. OGVs travel internationally and may be registered by the U.S. Coast Guard (U.S. flagged), or under the flag of another country (foreign-flagged). The majority of vessels that visit California ports are foreign-flagged vessels.

Background/Regulatory History

While OGVs are a large contributor of NOx in the South Coast, both South Coast AQMD and the State have little authority to regulate this source. Regulation of these emissions is under the authority of the International Maritime Organization (IMO). The IMO Annex VI ("Regulations for the Prevention of Air Pollution from Ocean-going ships") specifies new engine NOx standards and sets fuel sulfur limits. Tier 2 IMO NOx standards have applied to new vessels since 2011, and in 2016, Tier 3 NOx standards applied within NOx Emission Control Areas (ECAs) such as the North American ECA. Unfortunately, under current conditions, Tier 3 marine engines are not expected to infiltrate the South Coast ports in significant number until 2030 to 2040.[10] This delayed arrival is a result of 1) few Tier III vessels being in service as OGV fleets turn over slowly, and 2) shipping companies generally assigning the new OGVs to the Asia to Europe routes instead of trans-Pacific routes. The delay in the production of Tier III OGVs are also caused by a significant increase in keels laid prior to Tier III standard deadline, allowing for "new" vessels to be constructed to Tier II standards.

Proposed Actions

U.S. EPA would advocate with international partners for the IMO to require extensive deployment of OGVs meeting Tier 3 NOx standards operating in the waters off the South Coast Air Basin by 2023. The measure could be implemented via regulation, incentives, voluntary agreements, or a combination of these approaches.

Possible Emission Reductions: Up to 28.2 tpd of NOx

[10] Mercator International LLC, San Pedro Bay Long-term Unconstrained Cargo Forecast, July 12, 2016

iii. Accelerate Implementation of Tier 4 In-Use Locomotives

Description of Source Category

There are three major categories of freight locomotives that BNSF and Union Pacific operate both nationally and in California. The first category is interstate line haul locomotives, which are primarily approximately 4,400 horsepower. The second category is made up of medium-horsepower (MHP) locomotives, as defined by CARB staff as typically between 2,301 and 3,999 horsepower. MHP locomotives are typically older line haul locomotives that have cascaded down from interstate service. And lastly, there are switch (yard) locomotives, specifically defined by U.S. EPA as between 1,006 and 2,300 horsepower.

Locomotives operating at railyards and traveling through California are a significant source of emissions of NOx, diesel PM, and GHGs. In addition, these emissions often occur in or near densely populated areas and neighborhoods, exposing residents to unhealthy levels of pollutants. The long useful life of locomotive engines means that natural turnover of engines to cleaner technology can take decades.

Background/Regulatory History

In 1998, U.S. EPA approved the initial set of national locomotive emission regulations. These regulations primarily emphasized NOx reductions through Tier 0, 1, and 2 emission standards. Tier 2 NOx emission standards reduced older uncontrolled locomotive NOx emissions by up to 60 percent (i.e., from 13.2 to 5.5 g/bhp-hr). CARB, along with the California Railroads and the U.S. EPA, signed a MOU in July 1998 that included provisions for early introduction of clean units, with requirements for a fleet average in the South Coast equivalent to U.S. EPA's Tier 2 locomotive standard by 2010.

In 2008, U.S. EPA approved a second set of national locomotive regulations. New, and older locomotives upon remanufacture, were required to meet more stringent particulate matter (PM) and NOx emissions standards. Both new Tier 3 and the remanufactured “Plus” standards result in 50 percent or more reductions in PM than the original Tier 0-2 PM emission standards. These standards also provided a small NOx benefit.

The 2008 regulations also included new Tier 4 (2015 and later model years) locomotive NOx and PM emissions standards. The U.S. EPA Tier 4 NOx and PM emissions standards further reduced emissions by approximately 95 percent from uncontrolled levels.

For the 2007 California State Strategy, CARB proposed a measure requesting U.S. EPA to replace existing locomotive engines with Tier 4 engines beginning in 2012 and conducting concurrent rebuilds of older engines to Tier 2.5 standards. CARB estimated

that by 2023, the measure would reduce NOx by 70 percent from the locomotive fleet in the South Coast. Although U.S. EPA has failed to initiate such action, this measure demonstrates the need for U.S. EPA to act on replacing locomotives in the Basin with Tier 4 locomotives.

Even with U.S. EPA setting the Tier 4 Standard, there have been a minimal number of Tier 4 locomotives visiting the South Coast. In 2017, CARB petitioned U.S. EPA to exercise its authority to adopt more stringent emission standards for locomotives to lower emissions of toxic and criteria air pollutants beyond Tier 4 levels. CARB requested promulgation of updated emission standards, including standards for newly manufactured locomotives and standards for emissions upon remanufacture. To date, U.S. EPA has failed to initiate such action. U.S. EPA rulemaking to tighten the national locomotive emission standards beyond the current Tier 4 requirements is the most efficient and cost-effective path. Such U.S. EPA action would not only support attainment of the 80 ppb ozone standard in the Basin but also local environmental justice initiatives in rail-impacted communities.

Proposed Actions

U.S. EPA would accelerate the turnover or repower of in-use locomotives in the South Coast to achieve extensive deployment of Tier 4 or better emission levels by 2023. This strategy may be executed through a regulation, incentives or other approaches to increase the turnover rate of in-use interstate, regional and switch locomotives to lower NOx emission locomotives that meet Tier 4 or better emission levels.

Possible Emission Reductions: Up to 11.2 tpd of NOx

iv. Low-NOx Aircraft

Description of Source Category

There are five commercial airports in the South Coast. NOx emissions from aircraft has grown dramatically over the past 20 years. In 2000, aircraft only contributed a little more than 1 percent of the mobile NOx emissions in the Basin. By 2023, NOx emissions from aircraft are projected to be responsible for 8 percent of the NOx emissions in the Basin. And while total mobile NOx emissions will be reduced in the South Coast by close to 80 percent of 2000 NOx values in 2023, aircraft NOx emissions will increase by almost 60 percent in that time period.

Background / Regulatory History

In 2012, U.S. EPA adopted emission standards for aircraft gas turbine engines with rated thrusts greater than 26.7 kilonewtons, primarily used on commercial passenger and freight aircraft. The requirements were previously adopted by the International Civil Aviation Organization (ICAO) and included two new tiers of more stringent emission standards for nitrogen oxides (NO_x). These are referred to as Tier 6 standards and Tier 8 standards. The Tier 8 standards apply to engines in the United States for which the first individual production model is manufactured after December 31, 2013. Overall, Tier 8 represents an approximate 15 percent reduction in NOx emissions from Tier 6.

Proposed Actions

U.S. EPA would require engines in aircraft visiting airports in the Basin to substantially lower their NOx emissions.

Possible Emission Reductions: Initial reductions are based on a range of reductions from a no growth assumption from 2012 to an assumption that Aircraft NOx reductions can be in line with other Heavy-duty transportation sources, i.e. Heavy Duty Diesel Vehicles, locomotives, and OGVs. If emissions are held at 2012 levels, 3.52 tpd of NOx reductions can be achieved in 2023, and if emissions are reduced by 63%, 10.9 tpd reductions of NOx can be achieved in 2023. This strategy may be executed through a regulation, incentives or other approaches.

6. CALIFORNIA ENVIRONMENTAL QUALITY ACT

South Coast AQMD, as Lead Agency, has reviewed the project pursuant to the California Environmental Quality Act (CEQA) and has determined that the proposed Contingency Measure Plan is considered a later activity within the scope of the project covered by the March 2017 Final Program Environmental Impact Report (PEIR) for the 2016 Air Quality Management Plan (AQMP) because no substantial changes or revisions to the project are necessary and no new significant environmental effects and no substantial increase in the severity of previously identified significant effects will occur as result of this later activity. As such, in accordance with CEQA Guidelines Section 15168(e)(2), the March 2017 Final PEIR for the 2016 AQMP adequately describes and analyzes the environmental effects of the project for the purposes of CEQA. Thus, no new environmental document is required pursuant to CEQA Guidelines Section 15168(c) and no subsequent CEQA document is required pursuant to CEQA Guidelines Section 15162.

Mitigation measures were included in the March 2017 Final PEIR and were made a condition of approval of the 2016 AQMP. A Mitigation, Monitoring, and Reporting Plan, pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097, was required and adopted for the 2016 AQMP. No new or modified mitigation measures will be made as a condition of the approval of this later activity. However, the mitigation measures that were made a condition of approval of the 2016 AQMP as analyzed in the March 2017 Final PEIR and the corresponding Mitigation, Monitoring, and Reporting Plan that was adopted at that time will remain in effect. In addition, Findings pursuant to CEQA Guidelines Section 15091 and a Statement of Overriding Considerations pursuant to CEQA Guidelines Section 15093 which were required and adopted for the 2016 AQMP, will remain in effect.

The March 2017 Final PEIR for the 2016 AQMP and supporting documentation for the record of project approval, including Findings, the Statement of Overriding Considerations, and the Mitigation, Monitoring, and Reporting Plan, may be examined at: http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-mar3-035.pdf or South Coast AQMD, 21865 Copley Drive, Diamond Bar, CA 91765.

7. SOCIOECONOMIC ANALYSIS

A socioeconomic assessment is not required under Health & Safety Code section 40440.8(a) which applies to rules. Also, the impacts from the Contingency Measure Plan fall within the scope of the Socioeconomic Report for the 2016 AQMP.

8. PUBLIC PROCESS

Development of the Draft Contingency Measures Plan was conducted through a public process. South Coast AQMD staff held a Public Workshop at South Coast AQMD Headquarters in Diamond Bar on October 18, 2019, to solicit information, comments, and suggestions from the public, affected businesses and stakeholders. Furthermore, the 2022 AQMP Advisory Group provided feedback and recommendations on the draft Contingency Measure Plan. The Advisory Group represents a diverse cross section of stakeholders such as large and small businesses, government agencies, environmental and community groups, and academia. The Draft Contingency Measure Plan was presented to the AQMP Advisory Group on October 9, 2019 and to the Mobile Source Committee on October 18, 2019. The Draft Final Contingency Measure Plan incorporating the public comments will be presented to the AQMP Advisory Group and the Mobile Source Committee on November 21, 2019 and November 15, 2019 respectively. A Public hearing will also be held at the South Coast AQMD Headquarters on December 6, 2019. Following the South Coast AQMD Governing Board approval, the Draft Contingency Measure Plan will be submitted to CARB. CARB will consider adoption of the Contingency Measure Plan at its December 12 -13, 2019 Board hearing in Sacramento. If adopted, CARB staff will submit the Contingency Measure Plan to U.S. EPA for inclusion into the SIP.

9. RESPONSE TO COMMENTS

From: Alyssa Beltran [mailto:ABeltran@ph.lacounty.gov]
Sent: Tuesday, October 29, 2019 4:42 PM
To: AQMPTeam <AQMPTeam@aqmd.gov>
Cc: Katie Butler <KButler@ph.lacounty.gov>; Charlene Contreras <chcontreras@ph.lacounty.gov>; Janet Scully <jscully@ph.lacounty.gov>; Cyrus Rangan <crangan@ph.lacounty.gov>
Subject: LAC DPH Comments on Draft Contingency Measure Plan for the 1997 Ozone Standard

Hello SCAQMD,

As a member of the 2022 AQMP Advisory Group, Los Angeles County Department of Public Health (Public Health) is providing comments on the Draft Contingency Measure Plan for the 1997 Ozone Standard. Public Health recommendations are listed below for consideration.

1. Land Use:
   A. Proposed and existing land use improvements (i.e. I-5 & proposed I-710 expansions) could impact nitrogen oxides (NOx) & ozone emissions in the South Coast Air Basin (Basin). As designed, these improvements could increase traffic speeds which in general would decrease vehicle emissions in the affected areas. Other improvements which may result in emissions reductions involve adjoining streets to improve traffic flow, adding special lanes for freight vehicles, etc. Will the Draft Contingency Measure Plan address and quantify anticipated emissions reductions in NOx and ozone as a result of land use changes? 1-1
   B. The Sacramento Metropolitan Air Quality Management District has a guide (updated in 2016) for California Environmental Quality Act (CEQA) practitioners that provides easily accessible tools to quickly identify and analyze proposed development projects that may have a significant adverse effect on local air quality. Public Health urges South Coast to consider their role in the CEQA process and the ways in which the Draft Contingency Measure Plan can account for identified emissions increases or reductions in NOx and ozone due to development projects. 1-2
2. Climate Change:
   A. It is noted that "South Coast AQMD is currently conducting a study to analyze meteorological factors and trends to explain the poor air quality observed in the recent years despite continuing and demonstrable reductions in emissions". The effects of climate change will impact the trajectory for attainment of the 1997 8-Hour Ozone standard and subsequent standards. Public Health agrees that this study is necessary to inform our understanding of future climate-related increases in NOx and ozone emissions in the Basin. The estimation of anticipated emissions reductions from future advanced technologies must account for potential climate-related increases in NOx and ozone. 1-3
3. Hot Spots:
   A. Several environmental justice/health equity-related resources have been published since the 2016 Air Quality Management Plan. These include, but are not limited to, the Office of Environmental Health Hazard Assessment's CalEnviroScreen 3.0 and the Los Angeles County's Environmental Justice Screening Method tool. Public Health recommends South Coast to consider these resources as a means of identifying hot spots in the Basin. Similar to what is being done through AB617, South Coast can tailor emissions reductions strategies in heavily burdened communities where significant improvements in air quality (and health) can be achieved. 1-4

Kindly confirm receipt of comments.

Regards,
Alyssa

Alyssa Beltran, MPH
Environmental Scientist
Toxicology and Environmental Assessment Branch
Los Angeles County Department of Public Health

Response to Comment 1-1

The Contingency Measure Plan has been prepared to address the contingency measure requirements of Clean Air Act (CAA) section 182(e)(5) for the 1997 8-hour ozone NAAQS for the Basin. The goal of this Plan is to provide the emissions reductions needed to achieve the 108 tpd of NOx reductions allocated to section 182(e)(5) measures. Land use improvements are an integral part of air quality planning and future improvements would be considered in the development of the next Air Quality Management Plan to the extent that they are included in SCAG's 2020 Regional Transportation Plan.

Response to Comment 1-2

The comment refers to the Guide to Air Quality Assessment in Sacramento County that was developed by Sacramento Metropolitan Air Quality Management District. It is important to note

that this guide is intended for land use projects within Sacramento County[11]. The South Coast AQMD has a similar document plus other online reference materials and guidance for evaluating land use projects under CEQA within South Coast AQMD's jurisdiction. CEQA practitioners are recommended to visit South Coast AQMD's CEQA webpage at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook.

The proposed project is located within South Coast AQMD's jurisdiction, and not within Sacramento County. Thus, the Guide to Air Quality Assessment in Sacramento County is not applicable to the proposed project. As explained in Chapter 6 of this staff report, South Coast AQMD, as lead agency, considered CEQA and evaluated the proposed project accordingly. South Coast AQMD staff determined that the proposed Contingency Measure Plan is considered a later activity within the scope of the project previously evaluated in the March 2017 Final Program Environmental Impact Report (PEIR) for the 2016 Air Quality Management Plan (AQMP) such that no new environmental document would be required pursuant to CEQA Guidelines Section 15168(c) and no subsequent CEQA document would be required pursuant to CEQA Guidelines Section 15162.

Response to Comment 1-3

Thank you for the comments in regards to the on-going study being funded by the South Coast AQMD to analyze meteorological factors and trends in the recent years. Persistent episodes of high ozone and PM2.5 concentrations, coupled with more frequent and record-breaking high temperatures in recent years, raise the question as to whether the regional climate in the SCAB is changing in such a manner that weather conditions leading to poor air quality will become more frequent in the future. Understanding the meteorological factors that contributed to the recent higher ozone events and comparing recent weather trends with predicted global climate change scenarios can assist in answering this important question, and informing the development of more effective strategies for improving air quality and protecting public health. The study is currently underway and is anticipated to be completed in fall 2020. The study results will be available to the public and will be considered in the development of the next Air Quality Management Plan.

Response to Comment 1-4

South Coast AQMD staff appreciates the concerns raised on environmental justice and health equity resources ensuring priority for reducing emissions in environmental justice areas and staff agrees that environmental justice communities should continue to be a priority. South Coast AQMD will continue to use the best available tools to identify environmental justice areas and disadvantaged communities as part of air quality planning and through implementation of AB617

[11] Sacramento Metropolitan Air Quality Management District, Guide to Air Quality Assessment in Sacramento County, http://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools; accessed November 1, 2019.

and other programs, prioritize these communities in emission reductions strategies and incentive programs.

EARTHJUSTICE

November 1, 2019

Britney C. Gallivan
Air Quality Specialist
South Coast AQMD
21865 Copley Drive
Diamond Bar, CA 91765

Re: Draft Contingency Measure for the 1997 Ozone Standard

Dear Ms. Gallivan:

On behalf of Earthjustice and Sierra Club, I submit comments on the Draft Contingency Measure Plan for the 1997 Ozone Standard. Overall, the need for this plan to achieve such a significant amount of pollution reductions at the back end of a 20-year ozone planning horizon confirms the warnings several organizations put into comments on the 2007 AQMP that the use of section 182(e)(5) "black box" measures provide breathers in the region an unfavorable tradeoff. Even worse, many of the emissions reductions promised by 2023 have never actually materialized meaning we will continue to breathe air that does not even meet the standard determined clean two cycles ago. The contingency measure plan needs additional measures to achieve the significant gap in attainment through a robust set of regulatory and other enforceable strategies. The following recommendations provide additional areas where emissions reductions are needed when our region fails to meet the 1997 ozone standard.

Residential Fuel Combustion

The contingency measure plan should have additional commitments to achieve emissions reductions from regulatory measures aimed at reducing and/or eliminating emissions from residential fuel combustion. In the 2023 and 2031 summer planning NOx inventories, residential fuel combustion amounts to 9 tons per day ("tpd") of NOx emissions. CMB-02 from the 2016 AQMP is only designed to achieve 1.1 tpd and 2.8 tpd of NOx reductions by 2023 and 2031 respectively. This leaves ample room for a commitment to tighten emissions standards for a range of appliances, including water heaters, stoves, dryers, pool heaters, and other equipment. In addition to inclusion of this type of commitment in the contingency measure plan, the South Coast AQMD should immediately begin a regulatory process to tighten emissions standards for the appliances that are the biggest culprits in this significant amount of NOx emissions from the residential fuel combustion sector. Finally, the plan needs to include a provision that all new development should not include combustion appliances because we need to start thinking about how do we make sure we are not making our air pollution problems worse as new development occurs.

2-1

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T: 415.217.2000 F: 415.217.2040 CAOFFICE@EARTHJUSTICE.ORG WWW.EARTHJUSTICE.ORG

NOx RECLAIM

Initially, we appreciate the South Coast AQMD staff's significant efforts to dismantle the utterly broken NOx RECLAIM program. We are encouraged by the inclusion of additional emissions reductions in this contingency measure plan, but we encourage the South Coast AQMD to achieve even more emissions reductions. The California Supreme Court has been clear that Best Available Retrofit Control Technology can be technology forcing. Despite this direction, much of the current conversion to command and control in the NOx RECLAIM program simply amounts to requirements for installing already existing and available technologies. The contingency measure plan should include additional emissions reduction measures centered around forcing the next generation of cleaner and even zero-emissions technologies at NOx RECLAIM facilities. 2-2

Transportation Planning

The current plan is lacking in real commitments to achieve reductions in NOx emissions from our transportation system. The plan should commit to more measures to achieve two goals: 1) reduction in Vehicle Miles Traveled ("VMT") and 2) advancing zero-emission transportation infrastructure. Because our transportation plan for decades has assumed we will close the black box, we have built a transportation system untethered from the reality of how we need to put our transportation dollars to work in solving our air pollution crisis. As such, we recommend including a measure to reduce the NOx Motor Vehicle Emissions Budgets if we fail to attain the 1997 ozone standard by 20% or more. By reducing the NOx budget, the Southern California Association of Governments ("SCAG") would need to produce a plan more reflective of the reality that we cannot continue to build a transportation system that makes solving our air pollution crisis more difficult. 2-3

Transportation Control Measures (TCMs)

The plan should include a commitment to adopt additional TCMs. In particular, the South Coast should use its authority under section 182(e)(4) of the Clean Air Act that allows TCMs "applicable during heavy traffic hours to reduce the use of high polluting vehicles or heavy-duty vehicles, notwithstanding any other provision of law." Other TCMs should be included to provide additional benefits and perks to use zero-emissions equipment in freight impacted communities. 2-4

We appreciate your consideration of these comments, and we look forward to working with the South Coast AQMD to actually meet an ozone standard.

Sincerely,

Adriano L. Martinez

Adriano L. Martinez
Earthjustice

Response to Comment 2-1

Staff agrees that reducing, managing, and changing the way energy is used in the residential sectors can provide additional NOx emission reductions, and will continue to seek those opportunities. With the understanding of the potential emission reductions from the residential and commercial sector, the 2016 AQMP includes control measures for the applications of zero or near-zero NOx emissions appliances in the residential and commercial sectors (CMB-02), additional enhancements in reducing energy use in existing residential buildings (ECC-03), and co-benefits from existing residential and commercial building energy efficiency mandates (ECC-02). CARB is also accounting for the co-benefits for measures associated with the 2017 Climate Change Scoping Plan, which include measures pertaining to appliance technology substitution; electricity demand reduction, and improving electrical efficiency in industry, agriculture, residential, and commercial lighting; and residential air conditioning, freezing, and refrigeration. South Coast AQMD will continue to evaluate opportunities for additional feasible NOx reductions in existing and new residential and commercial buildings, including potential rulemaking in the 2020-2022 timeframe. Any potential surplus reductions achieved beyond the South Coast AQMD's aggregate reduction commitments in 2023 can be applied toward the reductions claimed under section 182(e)(5) measures and attainment in 2023.

Response to Comment 2-2

The adoption resolution for the 2016 AQMP directed staff to achieve five tpd of NOx emission reductions as soon as feasible but no later than 2025, and to transition the RECLAIM program to a command-and-control regulatory structure requiring BARCT as soon as practicable (CMB-05). Given the progress made in the NOx RECLAIM transition, it is anticipated that a portion of the emission reductions from CMB-05 could be achieved earlier (by 2023). Therefore, in this Contingency Measure Plan, 2 out of the 5 tpd of NOx emission reductions from CMB-05 are allocated as part of the South Coast AQMD Identified Emission Reduction Strategies towards section 182(e)(5) commitments.

As facilities transition out of NOx RECLAIM, a command-and-control rule that includes NOx emission standards reflecting BARCT is needed for all equipment categories. The BARCT assessment consists of a multi-step analysis, including technology assessments where staff reviews current South Coast AQMD regulatory requirements, surveys other air districts and agencies outside of the South Coast AQMD's jurisdiction to identify emission limits that exist for similar equipment, and identifies and assesses pollution control technologies to determine what degree of reduction could be achievable for the affected sources. Based on the collected information, initial BARCT emission limits are established. Once the initial BARCT emission limits are determined, a cost-effectiveness analysis is conducted. The BARCT assessment, as part of each rule development process, is conducted through a public process which takes into account comments, concerns and input from a cross section of stakeholders including representatives from affected businesses, environmental groups, public agencies, consultants, and other interested parties. Thus, BARCT is implemented as the RECLAIM program is

transitioned into a command-and-control regulatory structure. Staff will continue to evaluate BARCT periodically for equipment categories to assess technological changes that may reflect lower emission limits.

Response to Comment 2-3

Section 40717 of the Health and Safety Code establishes a process for air district involvement in developing transportation control measures and the emission reduction goals for the Regional Transportation Plan. Currently, the 2016 AQMP reflects the emission benefits associated with SCAG's Final 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Section 176(c) of the CAA establishes transportation conformity requirements to ensure that transportation activities do not interfere with attaining and maintaining air quality standards. Motor vehicle emissions budgets are the mechanism for ensuring that transportation planning activities conform to the SIP. The long-term transportation planning requirements for emission reductions from onroad mobile sources within the Basin are met by SCAG's Regional Transportation Plan (RTP), which is developed every four years with a 20-year planning horizon.

In this Contingency Measure Plan, CARB is committing to achieve 3 tpd of NOx reductions as part of the Innovative New Measures, which also includes measures for reduction in growth of single-occupancy vehicle travel, VMT and land conservation, and regional VMT reductions (more details in Section 3c). Emission reductions from these measures will be applied toward the 182(e)(5) commitment. Staff agrees that there could be additional opportunities for emission reductions transportation; however, we note that the NOx emission benefits from VMT reduction strategies are likely modest. Staff will work with SCAG and other stakeholders on the next RTP to evaluate future potential emission reduction opportunities for VMT reductions and advancement of cleaner transportation options for inclusion into the 2022 AQMP, and reflection in the transportation conformity emissions budgets for future years. Staff welcomes input from stakeholders concerning what methods may be used to reduce VMT, as well as additional efforts to reduce vehicle emissions, and thus allow the implementation of lower transportation conformity budgets in the future.

Response to Comment 2-4

The commenters request that the South Coast AQMD staff propose transportation control measures as authorized by Section 182(e)(4) of the CAA [42 U.S.C. Section 7511a(e)(4)], which provides that an extreme area's state implementation plan "may contain provisions establishing traffic control measures applicable during heavy traffic hours to reduce the use of high-polluting vehicles or heavy duty vehicles, notwithstanding any other provision of law." In the early 1990's, South Coast AQMD staff worked on developing such a measure to apply to heavy-duty trucks. However, Section 246(h) of the CAA [42 U.S.C. Section 7586(h)] appears to limit Section 182(e)(4), by providing that "The Administrator shall by rule, within 1 year after November 15, 1990, ensure that transportation control measures including time-of-day or day-of-week restrictions, and other similar measures that restrict vehicle usage, do not apply to any clean-fuel vehicle that meets the requirement of this section. This subsection shall apply notwithstanding subchapter 1 of this chapter." The section allowing extreme areas to implement time-of-day restrictions for heavy-duty vehicles is included in subchapter 1. Therefore, even though Section 182(e)(4) states that it applies "notwithstanding any other provision of law," that section is in reality limited by Section 246(h).

EPA actually issued its regulation exempting clean fuel heavy-duty vehicles from time-of-day transportation control measures on March 1, 1993. 58 Fed. Reg. 11888, "Clean Fuel Fleet Credit Programs, Transportation Control Measure Exemptions, and Related Provisions." EPA explained that "eligible clean-fuel fleet vehicles would be exempt from measures which forbid vehicle transit only during certain hours of the day, days of the week, days of the month, or during other defined periods of time…." 58 Fed. Reg. 11888, 11895 col. 3. Thus, eligible clean fuel vehicles would be exempt from any measure in an extreme area that limits vehicle travel based on time of day, such as that referred to in Section 182(e)(4). *Id.*. EPA proposed its standards for clean fuel heavy-duty vehicles on June 10. 1993, at 3.5 g/bhp/hr NOx. 58 Fed. Reg. 32474, 32489 c. 3. EPA finalized its clean fuel fleet standard for heavy-duty vehicles at 3.8 g/b/hp/hr for Federal fuel and 3.5 g/bhp/hr for California fuel. 40 C.F.R. Section 88.105-94. Currently, heavy-duty diesel fleets are phasing in the 2010 model year standard, which requires a maximum of 0.2 bhp/hr NOx. The Federal 2010 standard is the same. Transportpolicy.net/standard/California-heavy-duty-emissions. Thus it is highly likely that any truck operating in the South Coast region today will meet or exceed the outdated "clean fuel" standard and thus be exempt from time-of-day transportation controls.

In any event, staff is uncertain about the possible emissions benefit to be derived from time-of-day limits on heavy-duty-trucks, which appear to be shifting as much of their travel as possible to off-peak hours already. Any such program would not eliminate emissions, but primarily move them to a different time of day, so that the only real emission benefit would be from reduced congestion.

Contingency Measure Plan for the 1997 8-Hour Ozone Standard in the South Coast Air Basin

Mobile Source Committee

November 15, 2019

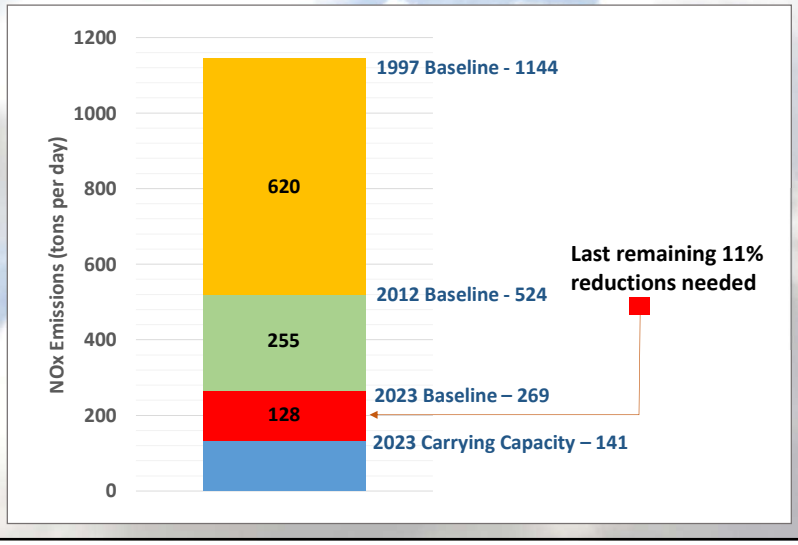
1997 8-hour Ozone Standard - Background

South Coast Air Basin – Extreme nonattainment area with an attainment date of June 15, 2024

- 2007 AQMP - Initial submission of State Implementation Plan (SIP)
- 2016 AQMP Control Strategy Update
  - Defined measures
  - Further Deployment of Cleaner Technologies measures
    - Approved by U.S. EPA under section 182(e)(5) (i.e. black box)
- Contingency measures required for section 182(e)(5) reductions three years prior to implementation of plan provisions (i.e., 2023 attainment date)
- Draft Contingency Measure Plan prepared by South Coast AQMD and CARB

2

Progress in Overall NOx Reductions Since 1997



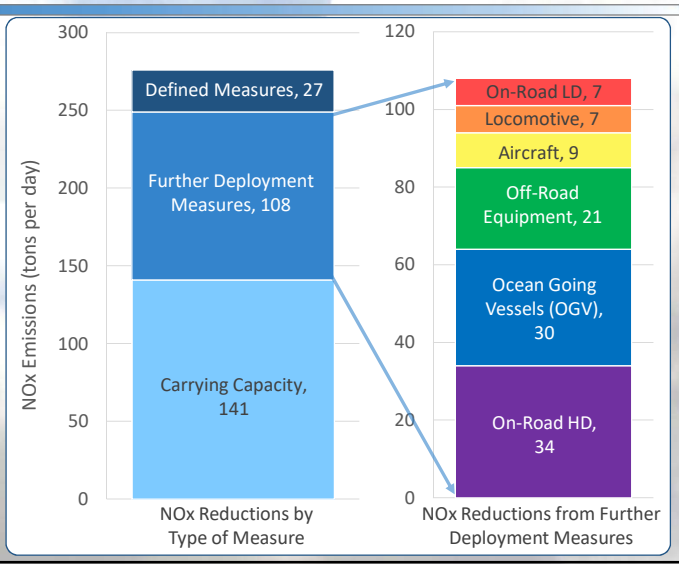
2016 AQMP - Overall Control Strategy (NOx)

Sources	NOx (tpd)
Year 2023 Baseline[1]	**269**
Carrying Capacity	**141**
Total Emission Reductions (All Measures):	**135**
Defined Measures:	*27*
South Coast AQMD Stationary Source Control Measures	*7*
South Coast AQMD Additional Mobile Source Control Measures	*16*
CARB Defined Measures	*4*
Further Deployment of Cleaner Technologies	*108*
Set Aside Budget[2]	3
2023 Remaining Emissions	**137[3]**

[1] Reflects CARB's 2018 Updates to the California State Implementation Plan
[2] As SIP reserve for potential technology assessment and for general conformity purposes
[3] Reflects an additional 4.2 tons per day of NOx emission reductions beyond the projected carrying capacity of 141 tons per day to accommodate changes in ocean-going vessel (OGV) emission inventory and CARB's SIP strategy for OGV.

CAA Section 182(e)(5) for Extreme Non-Attainment Areas

- Allows for reliance on emission reductions from anticipated new technologies or improvement of existing technologies
- EPA approved Further Deployment measures in the 2016 AQMP under section 182(e)(5) – 108 tpd
- Contingency measures required 3 years prior to implementation of plan provisions (i.e., 2023 attainment date)
  - Provide full reductions assigned to 182(e)(5) measures



5

Draft Contingency Measure Plan

- Identified Emission Reduction Strategies
- Additional Incentive Funding
- Federal Measures/Responsibilities

6

Identified Emission Reduction Strategies

Measures Description	Agency	NOx Reductions (tpd)
RECLAIM BARCT Rules	South Coast AQMD	2
Ports MOU	South Coast AQMD	3.2 – 5.2
Airports MOU	South Coast AQMD	0.5
Metrolink Locomotives	South Coast AQMD	3
Funding Incentives (Expected Future Funding)	South Coast AQMD	1.5
Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation	CARB	1.7
ATCM for Portable Engines, and the Statewide Portable Equipment Registration Program Regulation	CARB	0.25
HD Inspection and Maintenance (I/M) program	CARB	4.2
Innovative New Measures	CARB	3.0
Total Reductions Towards 182(e)(5) Commitment*		24 – 26 tpd

** Estimated and included 4.2 tons per day of reductions associated with updated OGV emissions inventory and CARB's SIP Strategy for OGV*

7

CARB's Innovative New Measures (3 tpd)

- Tier 5 Off-Road Diesel Engine Standard
- State Green Contracting
- Reduction in Single-Occupancy Vehicle Travel Growth
- Locomotive Emission Reduction Measure
- VMT and Land Conservation
- Regional VMT Reductions
- Co-Benefits of Climate Change Scoping Plan Building Electrification

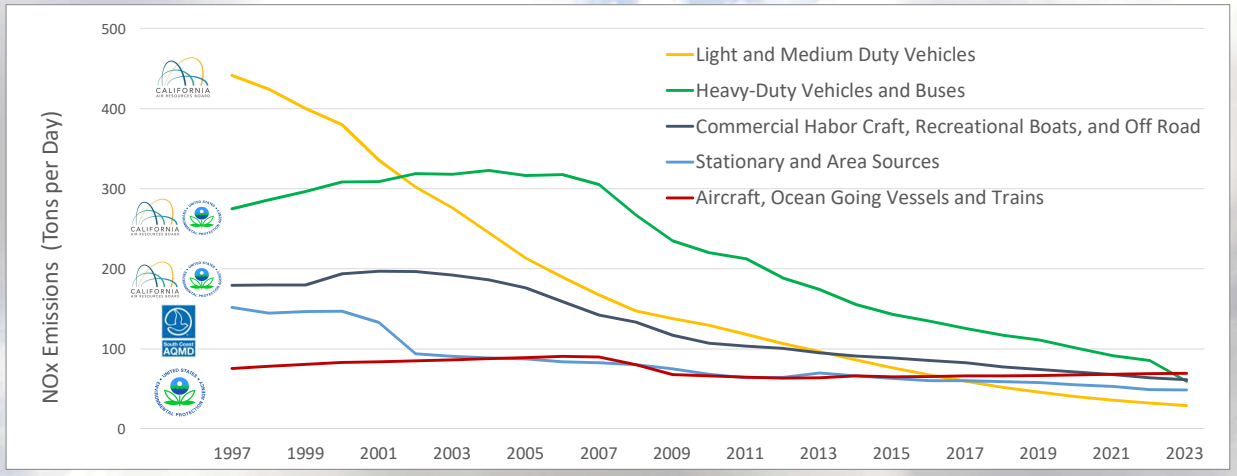
8

Additional Incentive Funding

- **2016 AQMP**
  - Estimated need over $1 billion per year over 14 years
  - Current effort will update this estimate based on latest information
- **Expected Future Funding (approximately $800 M over 4 years)**
  - AB 617-Related Incentives – $80-90 M/yr.
  - Carl Moyer - $40-50 M/yr.
  - Prop 1B - $30 M
  - VW Settlement - $67 M
  - AB2766 Subvention Fund - $22 M/yr.
  - Mobile Source Air Pollution Reduction Review Committee - $17 M/yr.
- **Additional Funding Needed**
  - Voting District Authorization Legislation - $1.4 B/yr.
  - Other Mechanisms - TBD
  - Expected 2023 NOx Reductions: 15 tons per day

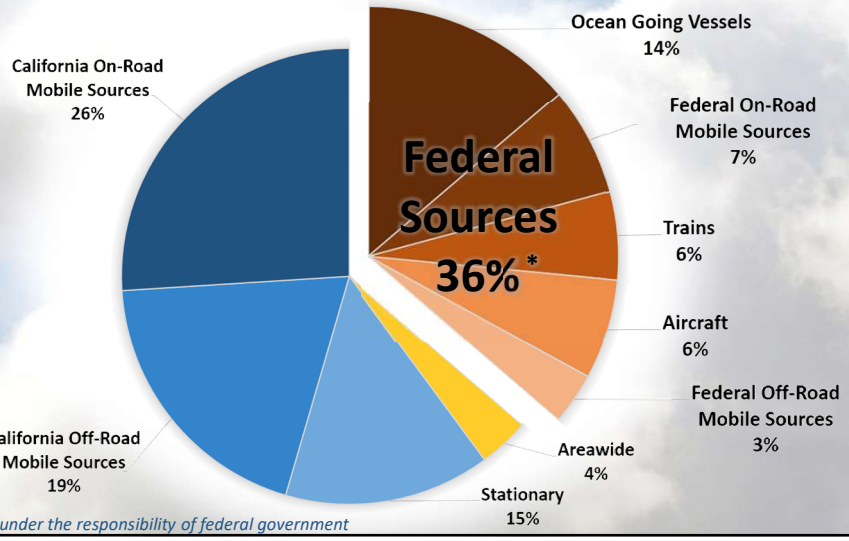
9

Emission Trends for Major Sources



10

Contribution of Federal Sources (2023 NOx emissions)



* Includes international sources under the responsibility of federal government

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Potential Federal Measures

Measures	Measure Description	2023 NOx Reductions (tpd)
Low-NOx Heavy-Duty Vehicles	Heavy-duty vehicles (above 14,000 lbs. GVWR) powered by low-NOx engines in 2023	Up to 35
Low-NOx Ocean-Going Vessels	Ocean-going vessels coming to California powered by Tier 3 engines in 2023	Up to 28
Low-NOx Locomotives	Locomotives coming to California powered by Tier 4 engines in 2023	Up to 11
Low-NOx Aircraft	Aircraft NOx reductions assumption of 20% if emissions are held at 2012 levels.	Up to 4
Total Possible Reductions Towards Further Deployment Commitment		Up to 78

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Contingency Measure Plan for Further Deployment Reductions

Strategy	2023 Reductions (tpd)
Identified Emissions Reduction Strategies	24 – 26
Additional Incentive Funding	15
Federal Measures and / or Funding	67 – 69
All Strategies	**108**

Key Public Comments

	Comments	Staff Responses
1	**Concerns about funding availability**	• Staff to continue to pursue funding opportunities locally and with the state legislature • May utilize the remaining reductions from federal measures (a total of 78 tpd) if the anticipated funding does not fully materialize
2	**Zero emission technologies for residential sector and co-benefits for climate goals**	• Net Emissions Analysis Tool (NEAT) developed to estimate changes in emissions and costs associated with deployment of zero and near-zero emission technologies for residential applications • Continue to implement 2016 AQMP measures through replacing existing appliances with zero or near-zero NOx emissions technologies in residential and commercial sectors ✓ $47 M incentive funding for projects awarded in January 2019 ▪ $14 M for 9 projects in residential and commercial sectors ✓ Potential for rulemaking in 2020-2022 • CARB is accounting for co-benefits of 2017 Climate Change scoping plan

Key Public Comments (cont.)

	Comment	Staff Responses
3	**Emissions from transportation sector and transportation planning**	• Emission benefits for transportation control measures are included in the 2016 AQMP • Staff will work with SCAG and other stakeholders on the next Regional Transportation Plan (RTP) for inclusion in the 2022 AQMP
4	**Timing for Sanctions**	• Sanction clock timelines and potential actions provided and summary was posted on AQMP website

A Call to Action

- California is doing all we can to reduce emissions with current funding and authority
- All levels of government need to take action to reduce emissions
- More incentive funding is needed to accelerate turn over of existing fleet to cleaner technologies to meet air quality standards
- Federal action is absolutely needed on sources California cannot address

Public Process

October

- 8th – Released draft Contingency Measure Plan for public comment
- 9th – AQMP Advisory Group
- 18th – Mobile Source Committee
- 18th – Public Workshop

November

- 1st – Set Public Hearing
- 15th – Mobile Source Committee
- 21st – AQMP Advisory Group

December

- 6th – South Coast AQMD Board Consideration
- 12th/13th – CARB Board Consideration

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Staff Recommendations for December Board Meeting

- Determine that the Contingency Measure Plan is within the scope of the Final Program Environmental Impact Report for the 2016 AQMP such that no new environmental document is required under the California Environmental Quality Act
- Approve the Contingency Measure Plan
- Submit the approved Contingency Measure Plan to CARB for its approval and subsequent submittal to the U.S. EPA for inclusion into the State Implementation Plan

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South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

Rule 2202 Summary Status Report

Activity for January 1, 2019 to October 31, 2019

Employee Commute Reduction Program (ECRP)	
# of Submittals:	291

Emission Reduction Strategies (ERS)	
# of Submittals:	460

Air Quality Investment Program (AQIP) Exclusively		
County	**# of Facilities**	**$ Amount**
Los Angeles	48	$ 306,268
Orange	10	$ 146,005
Riverside	1	$ 26,776
San Bernardino	6	$ 26,247
TOTAL:	**65**	**$ 505,295**

ECRP w/AQIP Combination		
County	**# of Facilities**	**$ Amount**
Los Angeles	5	$ 19,847
Orange	1	$ 187
Riverside	1	$ 8,598
San Bernardino	2	$ 18,797
TOTAL:	**9**	**$ 47,429**

Total Active Sites as of October 31, 2019

ECRP (AVR Surveys)			TOTAL Submittals w/Surveys	AQIP	ERS	TOTAL
ECRP[1]	AQIP[2]	ERS[3]				
505	14	22	541	99	700	1,340
37.68%	1.04%	1.64%	40.37%	7.39%	52.24%	100%[4]

Total Peak Window Employees as of October 31, 2019

ECRP (AVR Surveys)			TOTAL Submittals w/Surveys	AQIP	ERS	TOTAL
ECRP[1]	AQIP[2]	ERS[3]				
375,551	5,286	14,503	395,340	15,813	313,679	724,832
51.81%	0.73%	2.00%	54.54%	2.18%	43.28%	100%[4]

Notes:
1. ECRP Compliance Option.
2. ECRP Offset (combines ECRP w/AQIP). AQIP funds are used to supplement the ECRP AVR survey shortfall.
3. ERS with Employee Survey to get Trip Reduction credits. Emission/Trip Reduction Strategies are used to supplement the ECRP AVR survey shortfall.
4. Totals may vary slightly due to rounding.

BOARD MEETING DATE: December 6, 2019 AGENDA NO.

REPORT: Lead Agency Projects and Environmental Documents Received

SYNOPSIS: This report provides, a listing of CEQA documents received by the South Coast AQMD between October 1, 2019 and October 31, 2019, and those projects for which the South Coast AQMD is acting as lead agency pursuant to CEQA.

COMMITTEE: Mobile Source, November 15, 2019, Reviewed

RECOMMENDED ACTION:
Receive and file.

Wayne Nastri
Executive Officer

PF:SN:JW:LS:JI

CEQA Document Receipt and Review Logs (Attachments A and B) – Each month, the South Coast AQMD receives numerous CEQA documents from other public agencies on projects that could adversely affect air quality. A listing of all documents received during the reporting period October 1, 2019 through October 31, 2019 is included in Attachment A. A list of active projects from previous reporting periods for which South Coast AQMD staff is continuing to evaluate or has prepared comments is included in Attachment B. A total of 61 CEQA documents were received during this reporting period and 33 comment letters were sent.

The Intergovernmental Review function, which consists of reviewing and commenting on the adequacy of the air quality analysis in CEQA documents prepared by other lead agencies, is consistent with the Board's 1997 Environmental Justice Guiding Principles and Environmental Justice Initiative #4. As required by the Environmental Justice Program Enhancements for FY 2002-03, approved by the Board in October 2002, each attachment notes proposed projects where the South Coast AQMD has been contacted regarding potential air quality-related environmental justice concerns. The South Coast AQMD has established an internal central contact to receive information on projects with

potential air quality-related environmental justice concerns. The public may contact the South Coast AQMD about projects of concern by the following means: in writing via fax, email, or standard letters; through telephone communication; and as part of oral comments at South Coast AQMD meetings or other meetings where South Coast AQMD staff is present. The attachments also identify, for each project, the dates of the public comment period and the public hearing date, if applicable. Interested parties should rely on the lead agencies themselves for definitive information regarding public comment periods and hearings as these dates are occasionally modified by the lead agency.

At the January 6, 2006 Board meeting, the Board approved the Workplan for the Chairman's Clean Port Initiatives. One action item of the Chairman's Initiatives was to prepare a monthly report describing CEQA documents for projects related to goods movement and to make full use of the process to ensure the air quality impacts of such projects are thoroughly mitigated. In response to describing goods movement, CEQA documents (Attachments A and B) are organized to group projects of interest into the following categories: goods movement projects; schools; landfills and wastewater projects; airports; general land use projects, etc. In response to the mitigation component, guidance information on mitigation measures was compiled into a series of tables relative to: off-road engines; on-road engines; harbor craft; ocean-going vessels; locomotives; fugitive dust; and greenhouse gases. These mitigation measure tables are on the CEQA webpages portion of the South Coast AQMD's website at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies. Staff will continue compiling tables of mitigation measures for other emission sources.

Staff focuses on reviewing and preparing comments for projects: where the South Coast AQMD is a responsible agency; that may have significant adverse regional air quality impacts (e.g. special event centers, landfills, goods movement); that may have localized or toxic air quality impacts (e.g. warehouse and distribution centers); where environmental justice concerns have been raised; and which a lead or responsible agency has specifically requested South Coast AQMD review. If staff provided written comments to the lead agency as noted in the column "Comment Status," there is a link to the "South Coast AQMD Letter" under the Project Description. In addition, if staff testified at a hearing for the proposed project, a notation is provided under the "Comment Status." If there is no notation, then staff did not provide testimony at a hearing for the proposed project.

During the period October 1, 2019 through October 31, 2019, the South Coast AQMD received 61 CEQA documents. Attachment B lists documents that are ongoing active projects. Of the total of 84 documents listed in Attachments A and B:

- 33 comment letters were sent;
- 31 documents were reviewed, but no comments were made;
- 15 documents are currently under review;
- 0 document did not require comments (e.g., public notices);
- 0 documents were not reviewed; and
- 5 documents were screened without additional review.

(The above statistics are from October 1, 2019 to October 31, 2019, and may not include the most recent "Comment Status" updates in Attachments A and B.)

Copies of all comment letters sent to lead agencies can be found on the South Coast AQMD's CEQA webpage at the following internet address: http://www.aqmd.gov/home/regulations/ceqa/commenting-agency.

South Coast AQMD Lead Agency Projects (Attachment C) – Pursuant to CEQA, the South Coast AQMD periodically acts as lead agency for stationary source permit projects. Under CEQA, the lead agency is responsible for determining the type of CEQA document to be prepared if the proposal for action is considered to be a "project" as defined by CEQA. For example, an Environmental Impact Report (EIR) is prepared when the South Coast AQMD, as lead agency, finds substantial evidence that the project may have significant adverse effects on the environment. Similarly, a Negative Declaration (ND) or Mitigated Negative Declaration (MND) may be prepared if the South Coast AQMD determines that the project will not generate significant adverse environmental impacts, or the impacts can be mitigated to less than significance. The ND and MND are written statements describing the reasons why projects will not have a significant adverse effect on the environment and, therefore, do not require the preparation of an EIR.

Attachments C to this report summarizes the active projects for which the South Coast AQMD is lead agency and is currently preparing or has prepared environmental documentation. As noted in Attachment C, the South Coast AQMD continued working on the CEQA documents for three active projects during August.

Attachments

A. Incoming CEQA Documents Log
B. Ongoing Active Projects for Which South Coast AQMD Has or Will Conduct a CEQA Review
C. Active South Coast AQMD Lead Agency Projects

DRAFT

ATTACHMENT A*
INCOMING CEQA DOCUMENTS LOG
October 1, 2019 to October 31, 2019

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Warehouse & Distribution Centers **RVC191010-05** Plot Plan No. 180022 - Fast Track No. 2017-04	The proposed project consists of construction of 135,054 square feet of warehouse and commercial uses on 56.95 acres. The project is located near the southeast corner of Sky Canyon Drive and Sparkman Way near the community of French Valley. Reference RVC170103-02 Comment Period: 10/2/2019 - 11/5/2019 Public Hearing: 11/5/2019	Notice of Intent to Adopt a Mitigated Negative Declaration	County of Riverside	Document reviewed - No comments sent
Warehouse & Distribution Centers **RVC191016-01** IDI Rider 2 and 4 Warehouses and Perris Valley Storm Drain Channel Improvement Project	The proposed project consists of construction of two warehouses totaling 1,373,449 square feet and improvements to 3,490 linear feet of an existing storm drain channel on 94.7 acres. The project is located on the southeast corner of Morgan Street and Redlands Avenue. Reference RVC190509-02 and RVC190507-09 Comment Period: 10/16/2019 - 11/14/2019 Public Hearing: 11/6/2019	Notice of Preparation	City of Perris	** Under review, may submit written comments
Warehouse & Distribution Centers **RVC191023-01** Horizon Business Park Warehouse Project (MA181211)	The proposed project consists of construction of a 310,760-square-foot warehouse on 13.9 acres. The project is located on the northwest corner of Etiwanda Avenue and Cantu-Galleano Ranch Road. Reference RVC181205-03 Comment Period: N/A Public Hearing: N/A	Response to Comments	City of Jurupa Valley	Document reviewed - No comments sent
Warehouse & Distribution Centers **SBC191001-02** Casmalia and Locust Warehousing Project	The proposed project consists of construction of three warehouses totaling 87,189 square feet on 5.13 acres. The project is located on the southwest corner of Casmalia Street and Locust Avenue. Comment Period: 9/20/2019 - 10/9/2019 Public Hearing: N/A	Mitigated Negative Declaration	City of Rialto	Document reviewed - No comments sent

**Sorted by Land Use Type (in order of land uses most commonly associated with air quality impacts), followed by County, then date received.*

- Project has potential environmental justice concerns due to the nature and/or location of the project.

** Disposition may change prior to Governing Board Meeting

Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.

ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
October 1, 2019 to October 31, 2019

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Warehouse & Distribution Centers **SBC191003-01** Willow Avenue Warehouse Project	The proposed project consists of construction of two warehouses totaling 160,834 square feet on 2.06 acres. The project is located on the southwest corner of Willow Avenue and San Bernardino Avenue. Comment Period: 9/29/2019 - 10/28/2019 Public Hearing: N/A	Mitigated Negative Declaration	City of Rialto	Document reviewed - No comments sent
Warehouse & Distribution Centers **SBC191009-01** Olympic Holdings Inland Center Warehouse	The proposed project consists of construction of a 101,464-square-foot warehouse on 5.25 acres. The project is located near the southeast corner of Inland Center Drive and Riverwalk Drive. Comment Period: 10/8/2019 - 10/28/2019 Public Hearing: 12/10/2019	Mitigated Negative Declaration	City of San Bernardino	Document reviewed - No comments sent
Warehouse & Distribution Centers **SBC191010-01** Bridge Point North Rialto	The proposed project consists of construction of a 382,018-square-foot warehouse on 15.95 acres. The project is located on the northeast corner of North Locust Avenue and West Norwood Street. Reference SBC190322-13 http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/SBC191010-01.pdf Comment Period: 10/9/2019 - 10/28/2019 Public Hearing: N/A	Mitigated Negative Declaration	City of Rialto	South Coast AQMD staff commented on 10/23/2019
Warehouse & Distribution Centers **SBC191016-03** Scheu Distribution Center	The proposed project consists of construction of four warehouses totaling 240,710 square feet on 13.23 acres. The project is located on the northeast corner of Archibald Avenue and 7th Street. Comment Period: 10/11/2019 - 11/13/2019 Public Hearing: 11/13/2019	Mitigated Negative Declaration	City of Rancho Cucamonga	** Under review, may submit written comments
Industrial and Commercial **LAC191022-04** Highline Truck Yard Project	The proposed project consists of construction of a truck yard facility with 42 trailer parking spaces on 2.77 acres. The project is located at 20915 South Lamberton Avenue on the southwest corner of South Lamberton Avenue and 209th Street. Comment Period: 10/22/2019 - 11/12/2019 Public Hearing: N/A	Notice of Intent to Adopt a Negative Declaration	City of Carson	Document reviewed - No comments sent

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SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Industrial and Commercial **LAC191023-06** ENV-2018-7626: 222 Corinth Avenue	The proposed project consists of demolition of 52,506 square feet of existing buildings and construction of a 134,996-square-foot office building on 3.28 acres. The project is located on the southeast corner of Olympic Boulevard and Corinth Avenue in the community of West Los Angeles. Comment Period: 10/3/2019 - 10/23/2019 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
Industrial and Commercial **RVC191001-07** MA19203 (PAR19006) Pedley Road	The proposed project consists of construction of a 14,591-square-foot automobile servicing building on 0.77 acres. The project is located on the southwest corner of Pedley Road and 63rd Street. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC191001-07.pdf Comment Period: 9/30/2019 - 10/14/2019 Public Hearing: N/A	Site Plan	City of Jurupa Valley	South Coast AQMD staff commented on 10/8/2019
Industrial and Commercial **RVC191001-16** PM 37746, PP2019-0007, and V2019-0002	The proposed project consists of construction of a 101,690-square-foot industrial building on 4.8 acres. The project is located on the northeast corner of East Grand Boulevard and 3rd Street. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC191001-16.pdf Comment Period: 9/25/2019 - 10/10/2019 Public Hearing: 10/10/2019	Site Plan	City of Corona	South Coast AQMD staff commented on 10/8/2019
Industrial and Commercial **RVC191015-01** MA19211 (CUP199004)	The proposed project consists of construction of a 20,000-square-foot semi-trailer rental and service facility on 17.18 acres. The project is located at 5610 Market Street on the southwest corner of Market Street and Rubidoux Boulevard. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC191015-01.pdf Comment Period: 10/11/2019 - 10/30/2019 Public Hearing: N/A	Site Plan	City of Jurupa Valley	South Coast AQMD staff commented on 10/22/2019
Industrial and Commercial **SBC191001-06** Altitude Business Centre Project	The proposed project consists of demolition of 87,000 square feet of residential and agricultural uses and construction of 25 commercial buildings totaling 1,313,000 square feet on 72.9 acres. The project is located on the southeast corner of Kimball Avenue and Euclid Avenue. Reference SBC190501-16 and SBC170519-02 Comment Period: N/A Public Hearing: 10/7/2019	Final Environmental Impact Report	City of Chino	Document reviewed - No comments sent

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Waste and Water-related **LAC191001-09** Southern California Gas Company, Pico Rivera Base Facility	The proposed project consists of modifications to an existing hazardous waste facility permit to include revisions to waste codes. The project is located at 8101 South Rosemead Boulevard near the southwest corner of Rosemead Boulevard and Slauson Avenue within the City of Pico Rivera. Comment Period: N/A Public Hearing: N/A	Permit Modification	Department of Toxic Substances Control	Document reviewed - No comments sent
Waste and Water-related **LAC191002-01** Rho-Chem LLC	The proposed project consists of modifications to an existing hazardous waste facility permit to include a material handling and packaging procedure. The project is located at 425 Isis Avenue near the southwest corner of Isis Avenue and West Manchester Boulevard within the City of Inglewood. Reference LAC190716-05 and LAC130716-06 Comment Period: N/A Public Hearing: N/A	Permit Modification	Department of Toxic Substances Control	Document reviewed - No comments sent
Waste and Water-related **LAC191010-02** San Pedro Boat Works	The proposed project consists of development of removal actions to clean up, remove, and dispose contaminated soil with metals, total petroleum hydrocarbons, polynuclear aromatic hydrocarbons, and polychlorinated biphenyls on 3.07 acres. The project is located at Berth 44 on the southwest end of Miners Street within the Port of Los Angeles. Reference LAC190321-01 Comment Period: N/A Public Hearing: N/A	Response to Comments	Department of Toxic Substances Control	Document reviewed - No comments sent
Waste and Water-related **LAC191023-02** Ocean Water Desalination Project	The proposed project consists of construction of an ocean water desalination facility with a capacity ranging from 20 to 60 million gallons per day of potable drinking water, ocean water intake and concentrate discharge infrastructure, and water conveyance system. The project is located at 301 Vista Del Mar on the northeast corner of Ocean Drive and 45th Street within the City of El Segundo. Reference LAC180327-10 and LAC150901-03 Comment Period: N/A Public Hearing: 11/18/2019	Final Environmental Impact Report	West Basin Municipal Water District	Document reviewed - No comments sent

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Waste and Water-related **ORC191015-04** Former Tom's Truck Center	The proposed project consists of development of cleanup actions to excavate, remove, and dispose contaminated soil with lead and total petroleum hydrocarbon on 6.7 acres. The project is located at 639 East 3rd Street on the northwest corner of East 3rd Street and Lacy Street within the City of Santa Ana. Comment Period: 10/11/2019 - 11/12/2019 Public Hearing: N/A	Draft Removal Action Workplan	Department of Toxic Substances Control	Document reviewed - No comments sent
Waste and Water-related **RVC191010-06** Stringfellow Superfund Site	The proposed project consists of development of remedial actions to clean up contaminated groundwater with perchlorate, trichloroethene, and chloroform on 17 acres. The project is located at 3400 Pyrite Street near the northeast corner of Pyrite Street and Granite Hill Drive within the City of Jurupa Valley. Reference RVC181023-09, RVC171025-06, RVC150814-02, and SBC140319-01 Comment Period: N/A Public Hearing: 10/23/2019	Community Notice	Department of Toxic Substances Control	Document reviewed - No comments sent
Waste and Water-related **SBC191001-17** Elder Creek Channel Improvement Project	The proposed project consists of a 700-foot extension of the flood control boundary and improvements to the existing stormwater channels to withstand a 100-year flood event. The project is located along the Elder Creek Channel between Old Greenspot Road and Plunge Creek within the City of Highland. Reference SBC120427-03 Comment Period: 9/27/2019 - 10/30/2019 Public Hearing: N/A	Mitigated Negative Declaration	County of San Bernardino Department of Public Works	Document reviewed - No comments sent
Waste and Water-related **SBC191011-03** Huston Creek Waste Water Treatment Plant Dewatering Building and Primary Clarifier Project	The proposed project consists of construction of a 0.7-million-gallon-per-day water clarifier 38 feet in diameter and 15 feet deep, a water holding tank 23 feet in diameter and 15 feet deep, and a 3,468-square-foot building on three acres. The project is located at 24516 Lake Drive near the northeast corner of Lake Drive and Edelweiss Drive in the community of Crestline within San Bernardino County. Comment Period: 10/8/2019 - 11/6/2019 Public Hearing: 11/14/2019	Notice of Intent to Adopt a Mitigated Negative Declaration	Crestline Sanitation District	Document reviewed - No comments sent

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Transportation **LAC191002-03** Shoemaker Bridge Replacement Project	The proposed project consists of replacement of an existing 0.4-mile bridge and roadway improvements. The project is located along West Shoreline Drive between the southern end of State Route 710 at the Los Angeles River (Post Mile (PM) 6.0) to the 10th Street off-ramp (PM 6.4) within the City of Long Beach. Reference LAC160407-08 Comment Period: 9/26/2019 - 11/12/2019 Public Hearing: 10/17/2019	Notice of Availability of a Draft Environmental Impact Report/ Environmental Assessment	California Department of Transportation	** Under review, may submit written comments
Transportation **ORC191001-05** Superior Avenue Pedestrian and Bicycle Bridge and Parking Lot Project	The proposed project consists of construction of a 280-foot by 16-foot overcrossing bridge, a 65,000-square-foot surface parking lot, and a 0.3-acre park on 3.4 acres. The project is located on the northeast corner of Superior Avenue and Highway 101. Comment Period: 9/23/2019 - 10/23/2019 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Newport Beach	Document reviewed - No comments sent
Transportation **ORC191001-10** State Route 55 Improvement Project	The proposed project consists of widening of a 7.3-mile segment of State Route (SR) 55 from four lanes to five lanes between the interchange of Interstate 5 and SR-55 (Post Mile (PM) 10.4) to the interchange of SR-55 and SR-91 (PM R17.9). The project traverses through the cities of Anaheim, Tustin, and Santa Ana in Orange County. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/ORC191001-10.pdf Comment Period: 9/30/2019 - 10/30/2019 Public Hearing: 10/16/2019	Negative Declaration	California Department of Transportation	South Coast AQMD staff commented on 10/22/2019
Transportation **RVC191011-02** County Line Road Transportation Corridor Project	The proposed project consists of construction of 7,084 feet of roadway improvements. The project is located along County Line Road between Park Avenue in the City of Calimesa to Bryant Street in the City of Yucaipa. Comment Period: 10/11/2019 - 11/12/2019 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Calimesa	Document reviewed - No comments sent

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Transportation **RVC191022-03** Interstate 15 Express Lanes Project Southern Extension	The proposed project consists of construction of 14.5 miles of freeway lanes along Interstate 15 from the intersection of State Route 74 and Central Avenue (Post Mile (PM) 22.3) in the City of Lake Elsinore to Cajalco Road (PM 36.8) in the community of Temescal Valley in Riverside County. Reference RVC160513-04 and RVC150730-09 Comment Period: 10/22/2019 - 11/22/2019 Public Hearing: 11/12/2019	Notice of Preparation	California Department of Transportation	** Under review, may submit written comments
Institutional (schools, government, etc.) **LAC191009-02** Rancho Los Amigos South Campus Project	The proposed project consists of demolition of 105 existing buildings, and construction of three buildings totaling 650,000 square feet and two parking structures totaling 953,750 square feet on a 35-acre portion of 74 acres. The project is located on the southwest corner of Golondrinas Street and Dahlia Street within the City of Downey. Reference LAC170809-05 Comment Period: 10/9/2019 - 11/22/2019 Public Hearing: 10/28/2019	Draft Environmental Impact Report	County of Los Angeles	** Under review, may submit written comments
Institutional (schools, government, etc.) **ORC191001-08** Chet Holifield Federal Building	The proposed project consists of construction of a one-million-square-foot building on 86.5 acres. The project is located on the southeast corner of Avila Road and Alicia Parkway within the City of Laguna Niguel. Comment Period: 9/23/2019 - 10/21/2019 Public Hearing: 10/2/2019	Notice of Intent to Prepare an Environmental Impact Statement	United States General Services Administration	Document reviewed - No comments sent
Institutional (schools, government, etc.) **ORC191015-03** EF Education First: International Language Campus	The proposed project consists of construction of a 68,000-square-foot school to accommodate 1,347 students and 85,500 square feet of housing facilities with 627 beds on 6.13 acres. The project is located at 3150 Bear Street on the southeast corner of Bear Street and Interstate 405. Comment Period: 10/15/2019 - 11/4/2019 Public Hearing: 11/25/2019	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Costa Mesa	** Under review, may submit written comments

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Institutional (schools, government, etc.) **RVC191011-01** Longfellow Elementary School Expansion Project	The proposed project consists of demolition of two residential units, one inn, and 12 portable classrooms. The project will also include construction of three buildings with 12 classrooms and modernization of six buildings. The project is located at 3610 Eucalyptus Avenue on the southwest corner of Sixth Street and Franklin Avenue within the City of Riverside. Reference RVC190703-06 and RVC190102-10 Comment Period: N/A Public Hearing: 11/4/2019	Final Environmental Impact Report	Riverside Unified School District	** Under review, may submit written comments
Medical Facility **RVC191015-05** Kaiser Permanente Moreno Valley Medical Center	The proposed project consists of demolition of 147,200 square feet of existing structures and construction of 1,125,000 square feet of medical service facilities with 460 hospital beds on 30 acres. The project is located at 27300 Iris Avenue on the northwest corner of Iris Avenue and Oliver Street. Reference RVC181127-05 Comment Period: 10/11/2019 - 11/25/2019 Public Hearing: N/A	Draft Environmental Impact Report	City of Moreno Valley	** Under review, may submit written comments
Medical Facility **SBC191016-02** PROJ-2019-0004	The proposed project consists of construction of a 105,051-square-foot assisted living facility with 109 beds and subterranean parking on 3.16 acres. The project is located at 13225 Serenity Trail near the southeast corner of Serenity Trail and Hillview Drive South. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/SBC191016-02.pdf Comment Period: 10/11/2019 - 10/30/2019 Public Hearing: N/A	Site Plan	County of San Bernardino	South Coast AQMD staff commented on 10/22/2019
Retail **LAC191023-07** ENV-2019-5436: 20539 Ventura Boulevard	The proposed project consists of demolition of 49,920 square feet of existing structures and construction of a 140,040-square foot retail building on 2.78 acres. The project is located near the northeast corner of Ventura Boulevard and Premiere Hills Drive in the community of Canoga Park-Winnetka-Woodland Hills-West Hills. Comment Period: 10/17/2019 - 11/6/2019 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent

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Retail **RVC191003-02** Magnolia Crossings Project	The proposed project consists of construction of 18,162 square feet of restaurant and retail uses, a 1,200-square-foot car wash facility, a 3,800-square-foot fueling canopy, and a gasoline service station with 16 pumps on 3.9 acres. The project is located at 3505 Van Buren Boulevard on the northeast corner of Van Buren Boulevard and State Route 91. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC191003-02.pdf Comment Period: 10/4/2019 - 10/23/2019 Public Hearing: 10/31/2019	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Riverside	South Coast AQMD staff commented on 10/17/2019
Retail **RVC191015-06** The Agua Caliente Band of Cahuilla Indians Cathedral City Fee-To-Trust Casino Project	The proposed project consists of construction of 125,000 square feet of gaming, retail, commercial, and office uses on 13.6 acres. The project is generally located along State Route 111 between Date Palm Drive and Buddy Rogers Avenue within the City of Cathedral City. Reference RVC181023-05 Comment Period: N/A Public Hearing: N/A	Finding of No Significant Impact/Tribal Environmental Impact Report	United States Department of Interior, Bureau of Indian Affairs	Document reviewed - No comments sent
Retail **RVC191016-04** Newport Pointe Commercial (Planning Application No. DEV2019-053)	The proposed project consists of construction of 61,953 square feet of retail, commercial, and restaurant uses, a 9,990-square-foot daycare center, a 3,700-square-foot car wash facility, a 3,060-square-foot fueling canopy, and a gasoline service station with 12 pumps on 11.14 acres. The project is located on the southwest corner of Newport Road and Evans Road. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC191016-04.pdf Comment Period: 10/9/2019 - 10/30/2019 Public Hearing: 10/30/2019	Site Plan	City of Menifee	South Coast AQMD staff commented on 10/22/2019
General Land Use (residential, etc.) **LAC191001-01** Jefferson on Avalon Specific Plan Project	The proposed project consists of construction of 1,200 residential units, 15,000 square feet of retail and restaurant uses, and a hotel with 200 rooms on 20 acres. The project is located on the northeast corner of Avalon Boulevard and 213th Street. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC191001-01.pdf Comment Period: 9/25/2019 - 10/24/2019 Public Hearing: 10/9/2010	Notice of Preparation	City of Carson	South Coast AQMD staff commented on 10/22/2019

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General Land Use (residential, etc.) **LAC191001-04** 1045 Olive Project	The proposed project consists of demolition of 35,651 square feet of existing structures, and construction of a 751,777-square-foot building with 794 residential units and 12,504 square feet of commercial uses with subterranean parking on 0.96 acres. The project is located on the northwest corner of South Olive Street and West 11th Street in the community of Central City. Reference LAC180522-13 and LAC171221-03 Comment Period: 9/26/2019 - 11/12/2019 Public Hearing: N/A	Draft Environmental Impact Report	City of Los Angeles	** Under review, may submit written comments
General Land Use (residential, etc.) **LAC191001-11** 340 South Hill Street Equity Residential Mixed-Use Project	The proposed project consists of demolition of an 850-square-foot restaurant, and construction of an 850,000-square-foot building with 428 residential units, commercial and retail uses, and subterranean parking on 0.75 acres. The project is located on the southeast corner of South Hill Street and West 4th Street in the community of Central City. Reference LAC170221-01 Comment Period: 9/26/2019 - 10/28/2019 Public Hearing: N/A	Sustainable Communities Environmental Assessment	City of Los Angeles	Document reviewed - No comments sent
General Land Use (residential, etc.) **LAC191001-12** The Arroyo at Monrovia Station Project	The proposed project consists of demolition of 47,112 square feet of existing residential and industrial uses, and construction of 302 residential units totaling 318,612 square feet, and 7,080 square feet of commercial uses with subterranean parking on 2.9 acres. The project is located on the southeast corner of West Evergreen Avenue and South Magnolia Avenue. Reference LAC190528-03 Comment Period: 9/26/2019 - 11/13/2019 Public Hearing: 11/13/2019	Draft Environmental Impact Report	City of Monrovia	** Under review, may submit written comments
General Land Use (residential, etc.) **LAC191017-01** Modera Argyle	The proposed project consists of demolition of 61,816 square feet of existing buildings, and construction of a 237,159-square-foot building with 276 residential units and 27,000 square feet of retail uses with subterranean parking on 1.1 acres. The project is located on the southeast corner of Argyle Avenue and Selma Avenue in the community of Hollywood. Reference LAC190418-04 and LAC170818-04 Comment Period: N/A Public Hearing: N/A	Final Environmental Impact Report	City of Los Angeles	Document reviewed - No comments sent

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General Land Use (residential, etc.) **LAC191022-02** Compton Artesia Specific Plan	The proposed project consists of construction of one million square feet of buildings with 4,800 residential units, 74,348 square feet of retail uses, and 76,426 square of office uses on 1.19 square miles. The project is located near the southeast corner of Bennet Street and South Wilmington Avenue. Reference LAC190404-05 Comment Period: 10/22/2019 - 12/9/2019 Public Hearing: N/A	Draft Program Environmental Impact Report	City of Compton	** Under review, may submit written comments
General Land Use (residential, etc.) **LAC191022-05** Hollywood and Wilcox (ENV-2016-3177-EIR)	The proposed project consists of construction of a 278,892-square-foot building with 260 residential units and 17,800 square feet of retail and restaurant uses with subterranean parking on 1.4 acres. The project is located on the southeast corner of Hollywood Boulevard and Wilcox Avenue in the community of Hollywood. Reference LAC170526-05 Comment Period: N/A Public Hearing: N/A	Environmental Leadership Development Project	City of Los Angeles	Document reviewed - No comments sent
General Land Use (residential, etc.) **LAC191023-03** 7617 Santa Monica Boulevard Project	The proposed project consists of demolition of 4,910 square feet of existing structures, and construction of a 63,560-square-foot building with 71 residential units and 9,240 square feet of commercial uses with subterranean parking on 0.72 acres. The project is located at 7617 Santa Monica Boulevard near the northeast corner of Santa Monica Boulevard and North Spaulding Avenue. Comment Period: 10/24/2019 - 11/25/2019 Public Hearing: N/A	Sustainable Communities Environmental Assessment	City of West Hollywood	** Under review, may submit written comments
General Land Use (residential, etc.) **LAC191023-04** 222 West 2nd Project	The proposed project consists of construction of a 688,401-square-foot building with 107 residential units, 7,200 square feet of retail uses, and 534,044 square feet of office uses on 2.71 acres. The project is located on the southeast corner of West 2nd Street and South Broadway in the community of Central City. Reference LAC190322-05 Comment Period: N/A Public Hearing: 11/20/2019	Final Environmental Impact Report	City of Los Angeles	Document reviewed - No comments sent

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General Land Use (residential, etc.) **LAC191023-05** ENV-2018-7330: 1424 N. Deepwater Avenue	The proposed project consists of construction of a 51,202-square-foot building with 56 residential units on 56,060 square feet. The project is located near the southeast corner of East Sandison Street and Eubank Avenue in the community of Wilmington-Harbor City. Comment Period: 10/3/2019 - 11/4/2019 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	** Under review, may submit written comments
General Land Use (residential, etc.) **LAC191023-08** ENV-2019-3845: 8547 North Sepulveda Boulevard	The proposed project consists of demolition of an existing 6,400-square-foot building and construction of a 37,850-square-foot building with 54 residential units on 0.51 acres. The project is located near the southwest corner of Sepulveda Boulevard and Parthenia Street in the community of Mission Hills-Panorama City-North Hills. Comment Period: 10/17/2019 - 11/6/2019 Public Hearing: N/A	Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
General Land Use (residential, etc.) **ORC191010-03** Magnolia Tank Farms	The proposed project consists of construction of 250 residential units, a 211,000-square-foot hotel with 215 rooms, and 19,000 square feet of retail uses on 28.9 acres. The project will also include 5.6 acres of open space. The project is located at 21845 Magnolia Street on the northwest corner of Magnolia Street and Banning Avenue. Reference ORC181219-04 Comment Period: N/A Public Hearing: 10/22/2019	Response to Comments	City of Huntington Beach	Document reviewed - No comments sent
General Land Use (residential, etc.) **RVC191009-03** MA19209 (PAR19008)	The proposed project consists of construction of a 57,600-square-foot hotel with 120 rooms, a 38,391-square-foot theater with 480 seats, a 57,000-square-foot medical office, 112,521 square feet of restaurant and retail uses, 10,810 square feet of automobile repair and car wash facilities, and a gasoline service station with 12 pumps on 31.33 acres. The project is located on the northeast corner of Mission Boulevard and Pyrite Street. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC191009-03.pdf Comment Period: 10/9/2019 - 10/25/2019 Public Hearing: N/A	Site Plan	City of Jurupa Valley	South Coast AQMD staff commented on 10/22/2019
General Land Use (residential, etc.) **SBC191002-02** Commstart LP Mobile Home Park	The proposed project consists of construction of 51 mobile home units totaling 82,500 square feet on 6.79 acres. The project is located near the northeast corner of Piedmont Avenue and East Highland Avenue. Comment Period: 9/25/2019 - 10/15/2019 Public Hearing: N/A	Mitigated Negative Declaration	City of San Bernardino	Document reviewed - No comments sent

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SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Plans and Regulations **LAC191001-13** Planned Development, General Plan Amendment, Zoning Code Amendment, and Alexan Foothills Specific Plan and Development Project	The proposed project consists of demolition of 28,400 square feet of existing structures and construction of a 375,729-square-foot building with 436 residential units on 9.63 acres. The project is located on the southeast corner of South Mayflower Avenue and West Evergreen Avenue. Reference LAC181030-01 Comment Period: 9/26/2019 - 11/13/2019 Public Hearing: 11/13/2019	Draft Environmental Impact Report	City of Monrovia	** Under review, may submit written comments
Plans and Regulations **LAC191001-14** Olive View-UCLA Medical Center Campus Master Plan	The proposed project consists of development of design guidelines, policies, and programs to guide campus development with a net increase of 1.3 million square feet in building footprint with a planning horizon of 20 years. The project is located at 14445 Olive View Drive on the northeast corner of Kennedy Road and Olive View Drive in the community of Sylmar. Reference LAC190528-02 and LAC160407-12 Comment Period: N/A Public Hearing: 10/15/2019	Final Environmental Impact Report	County of Los Angeles	Document reviewed - No comments sent
Plans and Regulations **LAC191001-15** Long Beach Building Standards Code Amendments	The proposed project consists of citywide updates to the Long Beach Municipal Code to establish uniform construction and maintenance standards. The project encompasses 50 square miles and is bounded by State Route 91 to the north, Interstate 605 to the east, East Ocean Boulevard to the south, and State Route 47 to the west. Comment Period: 10/1/2019 - 10/30/2019 Public Hearing: N/A	Notice of Intent to Adopt a Negative Declaration	City of Long Beach	Document reviewed - No comments sent
Plans and Regulations **LAC191011-04** Monterey Park Focused General Plan Update	The proposed project consists of updates to the General Plan land use element to remove growth control zoning and create land use policies to attract economic and housing development with a planning horizon year of 2040. The project encompasses 4,270 acres and is bounded by Interstate 10 to the north, City of Rosemead to the east, State Route 60 to the south, and Interstate 710 to the west. Reference LAC190611-03 and LAC190416-04 Comment Period: N/A Public Hearing: 10/28/2019	Final Environmental Impact Report	City of Monterey Park	** Under review, may submit written comments

- Project has potential environmental justice concerns due to the nature and/or location of the project.
** Disposition may change prior to Governing Board Meeting
Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.

ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
October 1, 2019 to October 31, 2019

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Plans and Regulations **LAC191016-05** General Plan Land Use and Urban Design Elements Project	The proposed project consists of updates to the City's General Plan Land Use Element and Urban Design Element to guide future development with a planning horizon year of 2040. The project encompasses 50 square miles and is bounded by State Route 91 to the north, Interstate 605 to the east, East Ocean Boulevard to the south, and State Route 47 to the west. Reference LAC190619-06. LAC160913-06, and LAC150519-04 Comment Period: N/A Public Hearing: 10/17/2019	Response to Comments	City of Long Beach	Document reviewed - No comments sent

- Project has potential environmental justice concerns due to the nature and/or location of the project.
** Disposition may change prior to Governing Board Meeting
Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.

ATTACHMENT B*
ONGOING ACTIVE PROJECTS FOR WHICH SOUTH COAST AQMD HAS OR IS CONTINUING TO CONDUCT A CEQA REVIEW

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Goods Movement **LAC190905-02** Berths 97-109 [China Shipping] Container Terminal Project	Staff provided public comments at the Los Angeles Board of Harbor Commissioners Special Meeting on October 8, 2019 for the proposed project. The proposed project consists of modifications to ten of 52 mitigation measures that were previously approved in the 2008 EIS/EIR, and six of ten modified mitigation measures are related to air quality. The project will also include an increase in the cargo throughput by 147,504 twenty-foot equivalent units (TEUs) from 1,551,000 TEUs to 1,698,504 TEUs in 2030. The project is located at the Port of Los Angeles on the northeast corner of State Route 47 and Interstate 110 in the communities of San Pedro and Wilmington. Reference LAC181002-11, LAC170616-02, LAC150918-02, LAC081218-01, LAC080501-01, LAC060822-02, and LAC170725-01 http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190905-02.pdf Comment Period: N/A Public Hearing: 10/8/2019	Final Supplemental Environmental Impact Report	City of Los Angeles Harbor Department	South Coast AQMD staff commented on 10/4/2019
Warehouse & Distribution Centers **LAC190920-01** Bridge Point South Bay II Warehouse Project, Project No. 2017-004820-(2)	The proposed project consists of construction of a 203,877-square-foot warehouse on 8.98 acres. The project is located at 20850 South Normandie Avenue on the southeast corner of South Normandie Avenue and Torrance Boulevard in the community of West Carson. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190920-01.pdf Comment Period: 9/19/2019 - 10/23/2019 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	County of Los Angeles	South Coast AQMD staff commented on 10/22/2019
Warehouse & Distribution Centers **RVC190924-01** Barker Logistics LLC EIR Plot Plan PPT190008	The proposed project consists of construction of a 694,630-square-foot warehouse on 31.55 acres. The project is located on the northeast corner of Placentia Avenue and Patterson Street in the community of Mead Valley. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC190924-01.pdf Comment Period: 9/13/2019 - 10/13/2019 Public Hearing: 10/7/2019	Notice of Preparation	County of Riverside	South Coast AQMD staff commented on 10/8/2019
Warehouse & Distribution Centers **RVC190924-02** San Gorgonio Crossing/Gateway Center Project	This document includes additional air quality and energy analyses in response to the Riverside County Superior Court's decision for the proposed project. The proposed project consists of construction of a 1,823,760-square-foot warehouse on a 140.23-acre portion of 229 acres. This project will also include 84.8 acres of open space. The project is located on the northwest corner of Cherry Valley Boulevard and Vineland Street in the community of Cherry Valley. Reference RVC170921-02, RVC170609-02, RVC170125-04, RVC161129-06, and RVC150113-01 http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC190924-02.pdf Comment Period: 9/20/2019 - 10/23/2019 Public Hearing: N/A	Notice of Preparation	County of Riverside	South Coast AQMD staff commented on 10/22/2019

Sorted by Comment Status, followed by Land Use, then County, then date received.

- Project has potential environmental justice concerns due to the nature and/or location of the project.

** Disposition may change prior to Governing Board Meeting

ATTACHMENT B
ONGOING ACTIVE PROJECTS FOR WHICH SOUTH COAST AQMD HAS OR IS CONTINUING TO CONDUCT A CEQA REVIEW

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Warehouse & Distribution Centers **SBC190913-02** Goodman Logistics Center Fontana III	The proposed project consists of construction of three warehouses totaling 1,118,460 square feet on 47.5 acres. The project is located on the northwest corner of Jurupa Avenue and Juniper Avenue. Reference SBC190314-04 http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/SBC190913-02.pdf Comment Period: 9/6/2019 - 10/21/2019 Public Hearing: 10/1/2019	Draft Environmental Impact Report	City of Fontana	South Coast AQMD staff commented on 10/18/2019
Industrial and Commercial **RVC190917-07** Project No. PLN 19-20026 - The Homestead Industrial Project	The proposed project consists of construction of seven warehouses totaling 1,080,060 square feet on 56 acres. The project is located on the southwest corner of Archibald Avenue and Remington Avenue. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC190917-07.pdf Comment Period: 9/16/2019 - 10/16/2019 Public Hearing: 10/1/2019	Notice of Preparation	City of Eastvale	South Coast AQMD staff commented on 10/8/2019
Waste and Water-related **LAC190924-04** La Brea Subarea Well and Transmission Main Project	The proposed project consists of demolition of an existing structure and rehabilitation of existing 10,250 linear feet of water pipelines ranging in diameter from 18 inches to 24 inches. The project will also include construction of a four-mile water pipeline 16 inches in diameter and a 700-gallon-per-minute water well. The project is located along Burton Way, Le Doux Road, and La Cienega Boulevard from the northeast corner of Chariton Street and Guthrie Avenue in the City of Los Angeles to the northeast corner of La Cienega Boulevard and Cadillac Avenue in the City of Beverly Hills. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190924-04.pdf Comment Period: 9/23/2019 - 10/23/2019 Public Hearing: N/A	Mitigated Negative Declaration	City of Beverly Hills	South Coast AQMD staff commented on 10/22/2019
Waste and Water-related **ORC190917-08** Bee Canyon Composting Operation at the Frank R. Bowerman Landfill	The proposed project consists of construction of a green waste composting facility with a receiving capacity of 437 tons per day of organic wastes diverted from landfills. The project is located at 110022 Bee Canyon Access Road near the southeast corner of Bee Canyon Access Road and State Route 241 within the City of Irvine. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/ORC190917-08.pdf Comment Period: 9/20/2019 - 10/21/2019 Public Hearing: 12/17/2019	Mitigated Negative Declaration	Orange County Department of Waste and Recycling	South Coast AQMD staff commented on 10/17/2019
Waste and Water-related **RVC190917-06** Coachella Valley Water District Sanitation Master Plan Update 2020	The proposed project consists of development of regulations, policies, strategies, and programs to meet current and future needs for wastewater treatment services. The project encompasses 885 square miles within Riverside and Imperial counties. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC190917-06.pdf Comment Period: 9/12/2019 - 10/12/2019 Public Hearing: 9/24/2019	Notice of Preparation	Coachella Valley Water District	South Coast AQMD staff commented on 10/1/2019

- Project has potential environmental justice concerns due to the nature and/or location of the project.
** Disposition may change prior to Governing Board Meeting

ATTACHMENT B
ONGOING ACTIVE PROJECTS FOR WHICH SOUTH COAST AQMD HAS OR IS CONTINUING TO CONDUCT A CEQA REVIEW

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Transportation **LAC190905-01** Westside Purple Line Extension Wilshire/Rodeo Station North Portal Project	The proposed project consists of development of three build alternatives for a transit station ranging from 6,200 square feet to 9,200 square feet. The project is located along Wilshire Boulevard between North Beverly Drive and North Crescent Drive. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190905-01.pdf Comment Period: 9/5/2019 - 10/7/2019 Public Hearing: 9/19/2019	Notice of Preparation	City of Beverly Hills	South Coast AQMD staff commented on 10/1/2019
Transportation **LAC190911-01** SR-110 Arroyo Seco Parkway Safety and Operational Enhancement Project	The proposed project consists of construction of 4.81-mile roadway improvements. The project is located along Arroyo Seco Parkway from Figueroa Street off-ramp (Post Mile (PM) 25.78) within the City of Los Angeles to Orange Grove (PM 30.59) within the City of South Pasadena. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190911-01.pdf Comment Period: 9/9/2019 - 10/24/2019 Public Hearing: 9/30/2019	Notice of Preparation	California Department of Transportation	South Coast AQMD staff commented on 10/8/2019
Transportation **SBC190924-03** BNSF Ono Lead Track Extension Project	The proposed project consists of construction of two rail track segments totaling 4.3 miles along the existing Burlington Northern Santa Fe corridor from the intersection of State Street and University Parkway in the community of Muscoy within San Bernardino County to the intersection of West Fifth Street and North Mt. Vernon Avenue in the City of San Bernardino. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/SBC190924-03.pdf Comment Period: 9/23/2019 - 10/22/2019 Public Hearing: N/A	Notice of Preparation	City of San Bernardino	South Coast AQMD staff commented on 10/22/2019
Institutional (schools, government, etc.) **RVC190917-05** K-8 STEAM Academy	The proposed project consists of construction of a 124,361-square-foot elementary school with 1,191 classroom seats on 23 acres. The project is located on the northwest corner of Washington Street and Abelia Street in the community of French Valley within Riverside County. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC190917-05.pdf Comment Period: 9/18/2019 - 10/18/2019 Public Hearing: 11/2/2019	Negative Declaration	Temecula Valley Unified School District	South Coast AQMD staff commented on 10/16/2019
Retail **ORC190919-06** Bayside Family Resort Hotel	The proposed project consists of construction of a 201,499-square-foot hotel with 275 rooms and a 5.21-acre surface parking lot on 14.29 acres. The project is located on the northwest corner of Pacific Coast Highway and Jamboree Road. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/ORC190919-06.pdf Comment Period: 9/16/2019 - 10/16/2019 Public Hearing: 9/25/2019	Notice of Preparation	City of Newport Beach	South Coast AQMD staff commented on 10/8/2019

- Project has potential environmental justice concerns due to the nature and/or location of the project.
** Disposition may change prior to Governing Board Meeting

ATTACHMENT B
ONGOING ACTIVE PROJECTS FOR WHICH SOUTH COAST AQMD HAS OR IS CONTINUING TO CONDUCT A CEQA REVIEW

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
General Land Use (residential, etc.) **LAC190903-02** Duarte Station Specific Plan	The proposed project consists of construction of 1,400 residential units, 12,500 square feet of retail uses, and 100,000 square feet of office uses on 19.09 acres. The project is located on the northwest corner of Highland Avenue and Duarte Road. Reference LAC190321-05 http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190903-02.pdf Comment Period: 8/27/2019 - 10/10/2019 Public Hearing: N/A	Subsequent Environmental Impact Report	City of Duarte	South Coast AQMD staff commented on 10/10/2019
General Land Use (residential, etc.) **LAC190903-12** The Villages at the Alhambra	The proposed project consists of demolition of 93,098 square feet of existing structures and construction of 1,060 residential units totaling 1,357,630 square feet with subterranean parking on 38.38 acres. The project is located on the northwest corner of South Fremont Avenue and West Mission Road. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190903-12.pdf Comment Period: 9/3/2019 - 11/1/2019 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	City of Alhambra	South Coast AQMD staff commented on 10/17/2019
General Land Use (residential, etc.) **LAC190906-07** Rose Hill Courts Redevelopment Project	The proposed project consists of demolition of 82,645 square feet of existing structures, and construction of nine buildings totaling 156,926 square feet with 185 residential units and 6,366 square feet of office uses on 5.24 acres. This project will also include 125,022 square feet of open space. The project is located at 4446 Florizel Street on the southwest corner of Florizel Street and McKenzie Street in the community of El Sereno. Reference LAC180926-03 http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190906-07.pdf Comment Period: 9/6/2019 - 10/21/2019 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report/Draft Environmental Impact Statement	City of Los Angeles Housing Authority	South Coast AQMD staff commented on 10/17/2019
General Land Use (residential, etc.) **LAC190918-03** 8850 Sunset Boulevard Project	The proposed project consists of demolition of 48,450 square feet of existing structures, and construction of a 369,000-square-foot building with 41 residential units and a hotel with 115 rooms with subterranean parking on 39,983 square feet. The project is located on the southwest corner of Sunset Boulevard and Larrabee Street. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190918-03.pdf Comment Period: 9/19/2019 - 10/25/2019 Public Hearing: 10/10/2019	Notice of Preparation	City of West Hollywood	South Coast AQMD staff commented on 10/8/2019

- Project has potential environmental justice concerns due to the nature and/or location of the project.
** Disposition may change prior to Governing Board Meeting

ATTACHMENT B
ONGOING ACTIVE PROJECTS FOR WHICH SOUTH COAST AQMD HAS OR IS CONTINUING TO CONDUCT A CEQA REVIEW

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
General Land Use (residential, etc.) **LAC190918-05** 93-Unit Detached Condominium Subdivision - Dockweiler Residential Project	The proposed project consists of construction of 93 residential units totaling 227,850 square feet on 19.4 acres. The project is located on the southwest corner of Dockweiler Drive and State Route 14. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190918-05.pdf Comment Period: 9/10/2019 - 10/1/2019 Public Hearing: 10/1/2019	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Santa Clarita	South Coast AQMD staff commented on 10/1/2019
General Land Use (residential, etc.) **ORC190820-03** Nakase Nursery/Toll Brothers Project	The proposed project consists of demolition of a 1,744-square-foot existing structure, and construction of 776 residential units totaling 1.3 million square feet and an elementary school to accommodate up to 1,000 students on 122 acres. The project will also include 28 acres of open space. The project is located on the southeast corner of Rancho Parkway and Bake Parkway. Reference ORC180713-01 http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/ORC190820-03.pdf Comment Period: 8/20/2019 - 10/3/2019 Public Hearing: N/A	Draft Environmental Impact Report	City of Lake Forest	South Coast AQMD staff commented on 10/3/2019
General Land Use (residential, etc.) **RVC190906-05** Rockport Ranch Project	The proposed project consists of construction of 305 residential units totaling 549,000 square feet and 21.18 acres of roads and easements on 79.68 acres. The project will also include 20.1 acres of open space. The project is located on the southwest corner of Briggs Road and Old Newport Road. Reference RVC170905-01 and RVC170106-05 http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC190906-05.pdf Comment Period: 9/5/2019 - 10/21/2019 Public Hearing: N/A	Draft Environmental Impact Report	City of Menifee	South Coast AQMD staff commented on 10/18/2019
General Land Use (residential, etc.) **RVC190919-05** MA19184 (PAR19005)	The proposed project consists of subdivision of 10.59 acres for future construction of 220 residential units. This project will also include 3.47 acres of open space. The project is located on the southwest corner of Canal Street and Pacific Avenue. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/RVC190919-05.pdf Comment Period: 9/19/2019 - 10/3/2019 Public Hearing: N/A	Site Plan	City of Jurupa Valley	South Coast AQMD staff commented on 10/1/2019
Plans and Regulations **LAC190815-02** Port Master Plan Update	The proposed project consists of establishment of development policies, guidelines, and amendments to existing land uses. The project encompasses the Port of Long Beach that is located on the southwest corner of the West Anaheim Street and De Forest Avenue. Reference LAC180809-06 http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/october/LAC190815-02.pdf Comment Period: 8/15/2019 - 10/3/2019 Public Hearing: 9/4/2019	Draft Program Environmental Impact Report	City of Long Beach Harbor Department	South Coast AQMD staff commented on 10/3/2019

- Project has potential environmental justice concerns due to the nature and/or location of the project.
** Disposition may change prior to Governing Board Meeting

ATTACHMENT C
ACTIVE SOUTH COAST AQMD LEAD AGENCY PROJECTS
THROUGH OCTOBER 31, 2019

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
The Phillips 66 (formerly ConocoPhillips) Los Angeles Refinery Ultra Low Sulfur Diesel project was originally proposed to comply with federal, state and South Coast AQMD requirements to limit the sulfur content of diesel fuels. Litigation regarding the CEQA document was filed. Ultimately, the California Supreme Court concluded that the South Coast AQMD had used an inappropriate baseline and directed the South Coast AQMD to prepare an EIR, even though the project has been built and has been in operation since 2006. The purpose of this CEQA document is to comply with the Supreme Court's direction to prepare an EIR.	Phillips 66 (formerly ConocoPhillips), Los Angeles Refinery	Environmental Impact Report (EIR)	The Notice of Preparation/Initial Study (NOP/IS) was circulated for a 30-day public comment period on March 26, 2012 to April 26, 2012. The consultant submitted the administrative Draft EIR to South Coast AQMD in late July 2013. The Draft EIR was circulated for a 45-day public review and comment period from September 30, 2014 to November 13, 2014. Two comment letters were received and the consultant has prepared responses to comments. South Coast AQMD staff has reviewed the responses to comments and provided edits which the consultant is incorporating into the Final EIR.	Environmental Audit, Inc.
Quemetco is proposing to modify existing South Coast AQMD permits to allow the facility to recycle more batteries and to eliminate the existing daily idle time of the furnaces. The proposed project will increase the rotary feed drying furnace feed rate limit from 600 to 750 tons per day and increase the amount of total coke material allowed to be processed. In addition, the project will allow the use of petroleum coke in lieu of or in addition to calcined coke, and remove one existing emergency diesel-fueled internal combustion engine (ICE) and install two new emergency natural gas-fueled ICEs.	Quemetco	Environmental Impact Report (EIR)	A Notice of Preparation/Initial Study (NOP/IS) was released for a 56-day public review and comment period from August 31, 2018 to October 25, 2018, and 154 comment letters were received. Two CEQA scoping meetings were held on September 13, 2018 and October 11, 2018 in the community. South Coast AQMD staff is reviewing the comments received.	Trinity Consultants
Tesoro is proposing to revise the project originally analyzed in the Final Environmental Impact Report for the May 2017 Tesoro Los Angeles Refinery Integration and Compliance Project (LARIC) to adjust the construction schedule and to modify its Title V permit to: 1) relocate the propane recovery component of the original project from the Carson Operations Naphtha Isomerization Unit to the Carson Operations C3 Splitter Unit; 2) increase the throughput of the Carson Operations Tank 35; and, 3) update the toxic air contaminant speciation for the six crude oil storage tanks at the Carson crude terminal with additional data.	Tesoro Refining & Marketing Company, LLC (Tesoro)	Addendum to the Final Environmental Impact Report for the May 2017 Tesoro Los Angeles Refinery Integration and Compliance Project (LARIC)	South Coast AQMD staff provided edits to the Revised Draft Addendum.	Environmental Audit, Inc.