

BOARD MEETING DATE: August 7, 2026

AGENDA NO. 30

PROPOSAL: Make CEQA Determinations for Proposed Addendum to Cooperative Agreement Between South Coast AQMD and Ports of Long Beach and Los Angeles; and Authorize Execution of Addendum to Cooperative Agreement Between South Coast AQMD and Ports of Long Beach and Los Angeles

SYNOPSIS: South Coast AQMD, Port of Long Beach, and Port of Los Angeles entered into a Cooperative Agreement on December 17, 2025, for zero-emission port infrastructure planning and development. The three parties have since jointly developed a proposed Addendum to the Cooperative Agreement that would require responsible parties to implement additional measures that are expected to result in emission reductions from certain port sources.

COMMITTEE: Mobile Source, March 20, May 15, and June 26, 2026, Reviewed

RECOMMENDED ACTIONS:

Adopt the attached Resolution:

1. Determining that the additional measures in the proposed Addendum to the Cooperative Agreement qualify as a later activity within the scope of the 2022 and the 2016 AQMPs, and the Final Program Environmental Impact Reports for the 2022 and 2016 AQMPs adequately describe the activity for the purposes of CEQA such that no new environmental document is required;
2. Determining that the cost recovery provision in the proposed Addendum to the Cooperative Agreement is exempt from CEQA;
3. Determining that nothing in the proposed Addendum to the Cooperative Agreement changes the prior determination that the creation of the Clean Air Mitigation Fund in the Cooperative Agreement is not a project within the meaning of CEQA; and
4. Authorizing the Executive Officer to execute the Addendum to the Cooperative Agreement between South Coast AQMD and the Ports of Long Beach and Los Angeles.

Wayne Nastri
Executive Officer

Background

The Ports of Long Beach and Los Angeles, collectively known as the San Pedro Bay Ports, are the busiest commercial marine ports in the Western Hemisphere, handling approximately one-third of all United States containerized waterborne cargo imports and exports and contributing significantly to the regional economy. At the same time, port-related mobile sources are collectively the largest source of smog and particulate forming emissions in the South Coast Air Basin and result in disproportionately high air toxic impacts for port-adjacent communities. The South Coast Air Basin is classified extreme non-attainment for the National Ambient Air Quality Standards (NAAQS) for ozone and serious non-attainment area for the NAAQS for PM_{2.5}.

On November 7, 2025, the Board approved the execution of the Cooperative Agreement among the South Coast AQMD, the City of Long Beach Harbor Department, and the City of Los Angeles Harbor Department (Cooperative Agreement). The Cooperative Agreement requires the Ports of Long Beach and Los Angeles (Ports) to develop and implement zero-emission infrastructure plans for all categories of mobile sources operated on port-managed property for the purpose of moving cargo and goods. The Cooperative Agreement was fully executed on December 17, 2025, after approvals by each Port.

As agreed in the Cooperative Agreement, South Coast AQMD and the San Pedro Bay Ports continued negotiating on potential additional measures for incorporation into the agreement that would be near-term actions that would complement the planning and implementation of zero-emission on-port infrastructure and further facilitate in emission reductions from port sources. Three additional measures were identified and are included in the proposed Addendum to the Cooperative Agreement (proposed Addendum) and are a result of negotiations with the Ports and feedback received during the public process.

The Ports plan to bring the proposed Addendum to their respective Board of Harbor Commissioners' approval on August 10 for Port of Long Beach and August 13 for Port of Los Angeles. Upon approval by the respective Board of Harbor Commissioners, the executive officers of each agency that is a party to the Cooperative Agreement will be empowered to sign to fully execute the proposed Addendum.

Proposed Addendum

The proposed Addendum will add three additional measures to the Cooperative Agreement (Attachment A to the Board Letter). The focus for the additional measures included the following key components: completion of actions within the five-year term of the Cooperative Agreement; a clear role for the Ports in controlling completion of an action; a clear role for South Coast AQMD in monitoring and enforcing measure implementation; and public engagement opportunities during measure implementation. Longer-term, broader emission reduction strategies may be considered following the

completion of the required zero-emission infrastructure planning and implementation, which are the critical first step toward zero-emission port operations.

The proposed Addendum is comprised of two main components: the Preamble and the additional measures.

Preamble

The Preamble provides the background and purpose of the proposed Addendum and describes what will be added to the Cooperative Agreement as well as specific sections of the current agreement that will be amended to integrate the additions. The Preamble also specifies how terms and conditions in the current agreement, including enforcement provisions, will be applied to the new measures.

The Preamble additionally describes the Ports' ongoing independent commitments and collaborative work with South Coast AQMD outside of the Cooperative Agreement, including development of a Clean Marine Fuel Assessment, releasing a solicitation for a Clean Marine Fuel Pilot Project, conducting a technical study on vessel emissions at low-speed operations, preparing a Clean Truck Fund Rate Spending Plan, and developing Zero-Emission Cargo Handling Equipment Deployment projections. These efforts and areas for future collaboration will be developed and implemented outside of the agreement as these Port-led efforts are already underway through other commitments or do not fit the scope of focus for the Cooperative Agreement.

Additional Measures

The proposed Addendum includes three additional measures to complement the existing primary measure on planning and implementing zero emissions infrastructure.

- **Incentive Measures:** Two measures contain requirements for the Ports to develop and implement emission reduction programs. First, the Ports must adopt enhancements to their current clean ship incentive programs to encourage increased port calls from the cleanest ocean-going vessels, according to an international clean ship-ranking system. Second, the Ports must also develop and implement a new incentive program to encourage utilization of zero-emission trucks serving the Ports.

Additional key elements within these measures include requirements for public process, enforcement provisions, reporting, progress tracking, and program evaluations. Program tracking metrics and evaluation are included in these additional measures to assess the success of a program, determine if objectives are met, and inform whether potential course correction is needed. Time extension provisions are also included for delays beyond the Ports' control.

- **Regional Infrastructure Measure:** The third measure includes a requirement for each Port to allocate \$20 million (totaling \$40 million) to South Coast AQMD for regional off-port zero-emission truck charging and fueling infrastructure projects. The selected projects will help support off-port operations of zero-

emission drayage trucks registered in the Ports Drayage Truck Registry. South Coast AQMD will be responsible for managing and distributing funds, as well as monitoring and reporting on the implementation of selected projects.

This measure requires South Coast AQMD and each Port to enter into a memorandum of understanding (MOU) that includes the following elements: recitals, project selection requirements, process for uncommitted funds, reporting requirements, public process, and MOU term. South Coast AQMD staff costs to manage funds and projects will be recovered with an administration fee that will not exceed 10 percent of total project cost.

Public Process

During the negotiation and development of the proposed Addendum, staff in conjunction with the Ports, conducted a parallel public process to solicit input from the public on potential additional measures. This public process included one virtual evening community meeting on December 11, 2025; one evening community meeting held in the Port-adjacent community with a remote participation option on February 19, 2026; one virtual Working Group Meeting on March 27, 2026; two virtual public meetings on May 14, 2026 and June 16, 2026; 6 virtual office hours sessions; individual meetings with interested stakeholders; two updates on the development of additional measures to the AB617 Wilmington, Carson, and West Long Beach (WCWLB) Community Steering Committee; and three updates to the Mobile Source Committee. The Ports have also conducted their own public process including environmental and community monthly meetings and their Clean Air Action Plan Update Meeting. Stakeholders included industry representatives and trade associations, environmental and community organizations, electrical utilities, fuel providers, labor groups, public agencies, and other interested parties. For more details on the public process, please refer to Attachment D to this Board Letter.

Key Remaining Issues

Throughout the negotiations and development of the proposed Addendum, staff worked with the San Pedro Bay Ports and stakeholders to resolve and address key issues. The remaining key issues are listed below:

- *Concern that Addendum does not include targets for emission reductions and/or equipment deployment*

Community and environmental groups have requested the Cooperative Agreement to have quantifiable and enforceable emission reduction and/or equipment deployment targets. However, through an extensive public process, infrastructure planning was identified as the critical first step needed before future emission reduction and equipment deployment strategies could be developed. The additional measures in the proposed Addendum are focused on near-term actions that will facilitate port emission reductions to complement on-port zero-emission infrastructure planning and implementation as required in the current agreement.

- *Concern that the additional measures do not address emissions from all port sources nor on-port infrastructure funding needs*

Community and environmental groups have expressed concern that the additional measures do not address emissions from locomotives, harbor craft, and cargo-handling equipment. However, the additional measures and the Cooperative Agreement as a whole represent only a portion of port emission reduction efforts and inter-agency collaboration, as not all efforts are well suited for inclusion in the Cooperative Agreement. Notably, the Ports and their tenants have secured hundreds of millions of dollars in grant funding from federal and state agencies as well as South Coast AQMD to deploy zero-emission technology for the emission sources not covered by the additional measures. The Preamble to the proposed Addendum also describes Port-led commitments outside of the Cooperative Agreement that will occur concurrently with the implementation of the agreement. Pacific Merchant Shipping Association (PMSA) separately expressed concern that the additional measures do not address on-port infrastructure funding needs. However, the Ports have already secured and matched over \$440 million in funding for on-port infrastructure, and any further funding needs will be identified in Port Zero-Emission Infrastructure Plans.

- *Concern about South Coast AQMD's cost recovery from off-port infrastructure funding administration*

PMSA has requested South Coast AQMD to forego or minimize cost recovery for off-port infrastructure funding administration. Based on administration of similar programs, extensive resources are needed across multiple divisions, contracting work including legal review, fund management, invoice review and approval, audits, along with verification and reporting out on contracts and project implementation. Recovery of costs is necessary, and the exact level of administration fee will be determined during the subsequent billing of the selected project and is set not to exceed a ceiling of 10 percent of the project cost. The 10-percent ceiling is lower than for other similar incentive programs, such as the 12.5-percent administration fee in the Carl Moyer Program, due to the expectation for a more streamlined process potentially in conjunction with other incentive program solicitations.

For other key comments that were raised during the public process and how they were addressed, refer to Attachment E to the Board Letter. Staff responses to all written comments are contained in Attachment F to the Board Letter.

Air Quality Management Plan and Other Legal Mandates

To achieve emission reductions needed to meet federal air quality standards, port-related mobile sources must shift from diesel-fueled technologies to zero-emission technologies, where feasible. The 2016 and 2022 Air Quality Management Plans (AQMPs), and the 2024 PM Plan included control measure MOB-01: Emission Reductions at Commercial Marine Ports to address emissions associated with port operations. The 2022 AQMP also introduced control measure MOB-15: Zero-Emission Infrastructure for Mobile Sources to facilitate development of zero-

emission charging and fueling infrastructure. Additionally, the Assembly Bill (AB) 617 Community Emission Reduction Plan (CERP) for WCWLB included actions to address local impacts from port emissions. Similar to the Cooperative Agreement, the proposed Addendum is consistent with the objective of AQMP control measures MOB-01 and MOB-15 and helps further address port-related air quality priorities included in the WCWLB CERP.

California Environmental Quality Act (CEQA)

The proposed Addendum to the Cooperative Agreement: 1) includes three additional measures requiring the Ports to enhance their current clean ship incentive programs to encourage port calls from the cleanest ocean-going vessels, to develop and implement a new incentive program to encourage utilization of zero-emission trucks, and to allocate funds to South Coast AQMD for regional off-port zero-emission truck charging and fueling infrastructure projects; 2) incorporates a provision for South Coast AQMD to recover reasonable costs for newly introduced staff expenses; and 3) directs payment for contract defaults to go into the Clean Air Mitigation Fund previously established in the Cooperative Agreement. The complete CEQA analysis is included in Attachment G.

In summary, pursuant to CEQA, South Coast AQMD, as lead agency, reviewed the proposed Addendum to the Cooperative Agreement and determined that: 1) the additional measures implement control measures that were previously adopted in the 2022 AQMP and the 2016 AQMP; 2) the Final Program Environmental Impact Report (EIR) for the 2022 AQMP and the Final Program EIR for the 2016 AQMP evaluated the control measures which are being relied upon for the additional measures, and analyzed their potential environmental impacts; 3) no subsequent EIR would be required by CEQA Guidelines Section 15168(c)(2) because there are no new or modified physical changes that are expected to result from implementing the additional measures to the Cooperative Agreement which were not previously analyzed in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP; and 4) the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP can be relied on for CEQA compliance. Thus, the additional measures in accordance with the proposed Addendum to the Cooperative Agreement qualify as a later activity within the scope of the programs approved earlier in the 2022 AQMP and the 2016 AQMP per CEQA Guidelines Section 15168(c), and the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP adequately describe and analyze the activities associated with implementing the additional measures in accordance with the proposed Addendum to the Cooperative Agreement for the purposes of CEQA such that no new environmental document is required.

The cost recovery provision of the proposed Addendum to the Cooperative Agreement qualifies for a statutory exemption from CEQA pursuant to CEQA Guidelines Section 15273 because the charges are necessary in order for South Coast AQMD to meet operating expenses. Therefore, pursuant to CEQA Guidelines Section 15062, a Notice of Exemption has been prepared for the cost recovery provision of the proposed Addendum to the Cooperative Agreement which is included as Attachment H to this

Board Letter. If the proposed Addendum to the Cooperative Agreement is approved, the Notice of Exemption will be filed for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties, and with the State Clearinghouse of the Governor's Office of Land Use and Climate Innovation.

Lastly, the portion of the proposed Addendum to the Cooperative Agreement which directs payment for contract defaults to go into the Clean Air Mitigation Fund previously established in the Cooperative Agreement does not involve a commitment to any specific future project that could result in a potentially significant physical impact on the environment. Therefore, the direction of further funds into the Clean Air Mitigation Fund does not change the prior determination that the creation of the Clean Air Mitigation Fund in the Cooperative Agreement is not considered a project within the meaning of CEQA pursuant to CEQA Guidelines Section 15378(b)(4).

Resource Impact

Attachment A3 of the proposed Addendum includes a measure that will require staff resources and potentially contractor support for managing and distributing funds, project solicitation, project contract management, and other administrative duties. The cost of these staffing and/or contractor resources will be offset through payments collected under the cost recovery provision specified in Attachment A3 of the proposed Addendum. Implementation, monitoring, and verification of activities for the measures described in Attachment A2 of the proposed Addendum can be covered by existing staff resources.

Attachments

- A. Addendum to Cooperative Agreement Among the South Coast Air Quality Management District, the City of Long Beach Harbor Department and the City of Los Angeles Harbor Department
- B. Key Elements of Proposal
- C. Resolution
- D. Public Process
- E. Key Comments Addressed
- F. Responses to Comments
- G. CEQA Analysis of the Proposed Addendum to the Cooperative Agreement
- H. Notice of Exemption from CEQA for the Cost Recovery Provision in the Proposed Addendum to the Cooperative Agreement
- I. Board Meeting Presentation

ATTACHMENT A

DRAFT PROPOSAL FOR BOARD CONSIDERATION (VERSION JULY 31, 2026)

ADDENDUM TO COOPERATIVE AGREEMENT AMONG THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THE CITY OF LONG BEACH HARBOR DEPARTMENT AND THE CITY OF LOS ANGELES HARBOR DEPARTMENT

This Addendum is dated for reference purposes as of [Date], between and among all Parties to the December 17, 2025 Cooperative Agreement Among the South Coast Air Quality Management District, the City of Long Beach Harbor Department, and the City of Los Angeles Harbor Department (the “Original Agreement”). The Original Agreement and the Addendum to the Original Agreement are hereinafter jointly referred to as the “Agreement.”

PREAMBLE

WHEREAS, the Original Agreement sets forth terms and conditions for the Parties to implement CAAP Plus Measures as specified in Section II.D. and Attachment A, to directly reduce emissions and/or facilitate future quantifiable emission reductions from port-related operations; and

WHEREAS, the Parties have concluded negotiation of additional CAAP Plus Measures pursuant to Section II.D.2. of the Original Agreement, to complement the CAAP Plus Measure – Port Zero-Emission Infrastructure Plans – as included in the Original Agreement; and

WHEREAS, the Parties jointly determined that: 1) Any additional CAAP Plus Measure must include enforceable commitments for the applicable Party(ies) to take specific action(s) that will result in and/or facilitate port emission reductions; 2) The applicable Party(ies) must have a clear role in controlling completion of the specified action(s); 3) Other Party(ies) must have a clear role for monitoring implementation of specific action(s) by the applicable Party(ies); 4) The specified action(s) must be able to be implemented within the term of the Agreement; and 5) Public engagement opportunities must be provided during measure implementation; and

WHEREAS, each City implements a variety of activities in the interest of facilitating future emission reductions from port-related operations. Assessments and technical studies are conducted to increase knowledge and understanding of emission reduction opportunities,

demonstration and pilot projects are implemented to evaluate the application and performance of technologies within particular port-related operations, plans are prepared to guide future activities, and forecasts and projections are developed to evaluate potential future conditions. Concurrent with the activities that are conducted pursuant to the terms and conditions of the Agreement through the term of the Agreement, each City will additionally, through a public process and outside of the Agreement, continue to develop and implement activities that support emission reductions including development of a Clean Marine Fuel Assessment, releasing a solicitation for a Clean Marine Fuel Pilot Project, conducting a technical study on vessel emissions at low-speed operations, preparing a Clean Truck Fund Rate Spending Plan, and developing a projection for Zero-Emission Cargo Handling Equipment Deployments, for which each City will ensure all necessary and applicable permits and entitlements or other requirements (e.g., CEQA/NEPA) are appropriately addressed.

WHEREAS, the Parties have jointly and individually conducted public processes to inform members of the public of the negotiation status and draft concepts and language of additional CAAP Plus Measures, and have considered public comments received on the draft concepts and language; and

NOW, THEREFORE, in consideration of the mutual interests and benefits of all Parties to be derived from the implementation of additional CAAP Plus Measures and in connection with the Original Agreement, the Parties further agree as follows:

- A. This Addendum adds three additional CAAP Plus Measures to the Original Agreement such that:
 1. Section II.D. is amended and restated in its entirety as follows:

“D. CAAP PLUS MEASURES. The CAAP Plus Measures, including the Port Zero-Emission Infrastructure Plans measure, two Port Emissions Reduction Programs, and the Regional Off-Port Truck Charging and Fueling Infrastructure measure, are included in Attachment A, and a list of definitions specific to this Agreement are included in Attachment B. Attachments A and B are incorporated herein as part of this Agreement.”
 2. Attachment A is now amended and shall be retitled as “CAAP PLUS MEASURES” and shall consist of three parts, specified as follows:
 - a. PART A1: PORT ZERO-EMISSION INFRASTRUCTURE PLANS
 - b. PART A2: PORT EMISSIONS REDUCTION PROGRAMS
 - c. PART A3: REGIONAL OFF-PORT TRUCK CHARGING AND FUELING INFRASTRUCTURE
 3. Section II shall apply to all CAAP Plus Measures as now listed in Section II.D. and specified in Attachment A.

- B. This Addendum adds Section II.AA. to the Original Agreement, which shall read as follows:
- “AA. SEVERABILITY OF CAAP PLUS MEASURES. If any CAAP Plus Measure(s), as listed in Section II.D. and specified in Attachment A, should be judicially invalidated or enjoined, it is the intent of the Parties that all unaffected CAAP Plus Measures shall continue to be legally valid and in effect according to their agreed terms, unless the Parties expressly agree otherwise. To the extent any CAAP Plus Measure is judicially invalidated or enjoined, the Parties shall reserve the right and ability to negotiate on a replacement measure to effectuate the Parties’ original intent or any modified replacement in recognition of changed circumstances.”
- C. This Addendum does not add, delete, nor alter any provision of the Original Agreement other than as specified in Sections A. and B., set forth above.
- D. This Addendum reflects the complete understanding of the Parties as to what, by the mutual agreement of the Parties, shall fit within the four corners of this Addendum. Agreement on the Addendum does not preclude future cooperation and joint efforts on other measures or projects, nor does it purport to comprehensively address all areas where the Parties share continuing interests in reducing port-related emissions. Nothing in this Addendum or the Original Agreement restricts the Parties' respective authorities.

SIGNATURE PAGES FOLLOW

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year indicated next to their signatures.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By _____

Name: Wayne Nasti

Title: Executive Officer

Date: _____, 20__

Attest _____

Name: Susan Nakamura

Title: Chief Operating Officer

APPROVED AS TO FORM:

Date: _____, 20__

BAYRON T. GILCHRIST,
General Counsel

By _____

Name: _____

Title: _____

CITY OF LONG BEACH, CALIFORNIA,
a municipal corporation,
acting by and through its Board of Harbor Commissioners

By _____

Name: NOEL HACEGABA

Title: Chief Executive Officer, Harbor Department

Date: _____, 20__

Attest _____

Name: _____

Title: _____

APPROVED AS TO FORM:

Date: _____, 20__

DAWN MCINTOSH
Long Beach City Attorney

By _____

Sudhir N. Lay,
Deputy City Attorney

CITY OF LOS ANGELES, CALIFORNIA,
a municipal corporation,
acting by and through its Board of Harbor Commissioners

By _____
Name: GENE SEROKA
Title: Executive Director, Harbor Department
Date: _____, 20__

Attest _____
Name: Amber Klesges
Title: Board Secretary

APPROVED AS TO FORM:

Date: _____, 20__

HYDEE FELDSTEIN SOTO
Los Angeles City Attorney
Steven Y. Otera, General Counsel

By _____

COOPERATIVE AGREEMENT - ATTACHMENT A2
CAAP PLUS MEASURES – PORT EMISSION REDUCTION PROGRAMS

A. Each City agrees to develop and implement for its respective Port the following programs (hereafter “Program” individually or “Programs” collectively) to support emission reductions from port-related operations.

1. Enhanced Clean Ship Incentive Program

- a. Each Port shall enact enhancements to their respective Clean Ship Incentive Programs to encourage calls by lower emitting ocean going vessels.
 - i. Such enhancements shall be designed to increase Program participation levels defined as the percentage of calls from ships meeting more stringent air emissions requirements.
 - ii. Such enhancements shall be aligned with the anticipated launch of Environmental Ship Index (ESI) 2.0, which is the international ship-ranking system used by both Ports to determine a ship’s environmental score, with a focus on air related environmental factors such as fuel use and engine type.
 - iii. Such enhancements will also consider any additional “plus-ups” to be encouraged over and above the ESI score.
- b. Each Port shall develop a Clean Ship Incentive Program that includes the following elements:
 - i. A description of the ocean-going vessels that typically call at their port, including annual visits by vessel type, engine tier level and fuel type.
 - ii. A description of the existing incentive Program including current participation levels. The description shall include a comparison between vessels that currently participate and those that do not participate in the Program by vessel type, engine tier, and fuel type.
 - iii. Description of the proposed enhanced Program, including the Program objective(s), the incentive amounts, the ESI 2.0 scores aligned to each incentive level, and any additional environmental “plus-ups” to be incentivized.
 - iv. A justification for the enhanced Program that describes the

considerations and factors that were taken into account when developing the proposed enhanced Program, which may include Port policies and goals, findings from technical studies, stakeholder outreach, and operational and financial considerations.

- v. Anticipated participation goals, based on the available information known at the time of Program development, and justification for the participation goals, with the understanding that participation levels are beyond the control of the Ports. Describe anticipated program benefits from achieving performance goals, as they relate to clean air benefits.
- vi. Annual Program budget and funding mechanism(s).
- vii. Program metrics for tracking and reporting such that clean air benefits can be evaluated.

2. Zero Emission Truck Utilization Incentive Program

- a. Each Port shall evaluate and develop an incentive program designed to encourage deployment of zero-emission trucks to terminals.
 - i. The incentive program may provide incentives on the basis of truck metrics (e.g. per truck trip) designed to encourage increased utilization of zero emission trucks.
- b. Each Port shall develop a Zero Emission Truck Utilization Incentive Program that includes the following elements:
 - i. The proposed incentive program, including Program objective(s), the general guidelines, incentive amounts, and mechanism of providing the incentive to participating fleets.
 - ii. A justification for the incentive approach that describes the considerations and factors that were taken into account when developing the program concept, which may include Port policies and goals, findings from technical studies, stakeholder outreach, software and hardware requirements, and operational and financial considerations.
 - iii. Anticipated participation goals, based on the available information known at the time of concept development, and justification for the participation goals, with the

understanding that participation levels are beyond the control of the Ports. Describe anticipated program benefits from achieving performance goals, as they relate to clean air benefits.

- iv. Annual program budget and funding mechanism(s).
- v. Program metrics for tracking and reporting such that clean air benefits can be evaluated.

B. Public Review Process

1. For each Program described in A.1. and A.2. above, the Ports will follow the public review process described below:
 - a. Ports shall release a Draft Program that includes the elements in A.1.b. and A.2.b. to the public and South Coast AQMD at least 90 days prior to consideration by each Port's Board of Harbor Commissioners. Ports shall allow the public to review the Draft Program for at least 45 days.
 - b. During the public review period, Ports shall conduct one public meeting to highlight key elements of the draft. This public meeting may be held in conjunction with a regularly scheduled CAAP Stakeholder Advisory Group meeting.
 - c. Following the 45-day public review period, Ports shall publicly post all comments received from the public and South Coast AQMD.
 - d. Ports shall respond to comments received as follows:
 - i. Revisions to the Draft Program, as appropriate; and
 - ii. Written responses to comments from the public and South Coast AQMD on the Draft Program.

C. Proposed Final Program

1. Ports shall allow the public and the South Coast AQMD to review the Proposed Final Program for at least 30 days prior to consideration by each Port's Board of Harbor Commissioners for A.1 and A.2.
2. Within 30 days of receipt of the Proposed Final Program, South Coast AQMD will verify completeness of the Proposed Final Program, and provide written confirmation to the Port, as follows:
 - a. The Proposed Final Program includes all elements described in A.1. and A.2.;
 - b. The Proposed Final Program followed criteria or methods described

in A.1 and A.2;

- c. The Port followed the Public Review Process described in B.
 - d. The Proposed Final Program includes written response to comments received on the Draft Program.
 - e. The Proposed Final Program includes a copy of the written confirmation of any time extension, if a time extension was requested under Section D.
3. The presentation to the Board of Harbor Commissioners for consideration of the Proposed Final Program in A.1 and A.2 shall include the following:
- a. The status of South Coast AQMD's verification in C.2., including whether the Program was verified, whether South Coast AQMD did not specify whether it was verified, or whether it was not verified (including the stated reason by South Coast AQMD);
 - b. Comment letters received on the Draft Program and Proposed Final Program;
 - c. Responses to comments on the Draft Program and Proposed Final Program.

D. Approval Process

- 1. Each Port must notify California Association of Port Authorities prior to enacting an incentive program that results in a change to rates, charges, classifications, rules, regulations or practices in each Port's respective tariff;
- 2. Updates to Port tariffs, for implementing incentive programs, if required, are subject to the approval of each City's respective Board of Harbor Commissioners pursuant to each City's Charter and other City requirements, which may include approval by the City Council and/or Mayor of each City.
- 3. Measures identified in A.1 and A.2 will be brought to each Board of Harbor Commissioners for approval on the following schedule:

CAAP Plus Measure	Type of Approval Action	Board Approval Deadline
Enhanced Clean Ship Incentive Program	Approve Program and/or Adopt Port Tariff	12 months after approval of ESI 2.0 by the International Association of Ports and Harbors (IAPH)
Zero Emission Truck Utilization Incentive	Approve Program and/or Adopt Port Tariff	February 28, 2027

E. Time Extensions

1. A time extension of up to 90 days to a deadline specified in Section B. or D.3 shall be granted if additional time is needed for reasons beyond the control of the Ports. The time extension request shall include the following:
 - a. Reason for the extension, and demonstration that the additional time is needed for reasons beyond the control of the Port
 - b. Length of time needed for the extension
 - c. Documentation to support the extension
2. Time extension requests must be made in writing to South Coast AQMD no later than 14 days before the deadline.
3. Upon written confirmation from the South Coast AQMD to the Port that the time extension includes the elements listed in E.1., the extension date is the new enforceable deadline.
4. Approval of a time extension for any particular deadline may automatically extend the date of later subsequent deadlines.

F. Program Reporting

1. Within nine calendar months following each Program approval and annually thereafter, each Port shall release a report to the public disclosing performance data for each of the programs identified in Section A, specifically reporting on the program metrics identified in the relevant approved Program.

G. Program Evaluation

1. Within the first full year of implementation for each of the Programs in A.1. A.2., the Ports shall release Draft Program Evaluation Approach(es) that describes the data sources as defined in A.1.b.vii. or A.2.b.v., and methodologies the Ports intend to use to assess each Program's

performance against the identified Program metrics. Ports shall allow South Coast AQMD and the public to review the Draft Program Evaluation Approach(es) for 30 days.

2. Ports shall publicly post the Final Program Evaluation Approach(es) on the CAAP Website. The Final Approach shall include responses to comments received on the Draft Approach.
3. 24 months after implementation of each of the Programs in A.1. and A.2., or no later than September 1, 2030, whichever comes first, the Ports shall develop a Draft Program Evaluation Report to assess if the Program(s) is/are meeting the identified Program objectives. The Draft Program Evaluation Report shall also include whether any potential changes to the Program may be recommended for subsequent consideration by the Port.
4. Each Port shall release the Draft Program Evaluation Report for public review for at least 30 days. Within 60 days following the public review period, each Port shall publicly release the Final Program Evaluation Report, including written responses to comments received. The Final Program Evaluation Report shall include justification for why subsequent actions are recommended.
5. Based on findings and recommendations in the Final Program Evaluation Report, the Board of Harbor Commissioners may elect to initiate further changes to the Programs, following the process under A., B., C., and E., as applicable. Program Reporting and Evaluation under F. and G. shall continue on any modified programs as applicable.

H. Enforcement Provisions

1. The Ports agree to pay into the Clean Air Mitigation Fund as specified in Agreement Section II.L. for the Types of Defaults in the following table:

Tier	Type of Default
Tier I	Port Program Adoption and/or Tariff Adoption: Deadline missed by less than 45 days for implementation of incentive programs described in D.3. without an approved time extension.
	Public Review Process: Not followed as described in B. without an approved time extension, or in G.1. through G.4.
Tier II	Port Program Adoption and/or Tariff Adoption: Deadline missed by 45 or more days for implementation of incentive

	programs described in D.3. without an approved time extension.
	Public Review Process: Not followed as described in B. without an approved time extension, or in G.1. through G.4. and the Port received one Tier I Default of the same Type.

DRAFT

COOPERATIVE AGREEMENT - ATTACHMENT A3
CAAP PLUS MEASURE – REGIONAL OFF-PORT TRUCK CHARGING AND
FUELING INFRASTRUCTURE

Each City agrees to implement for its respective Port the following:

- A. Each Port agrees to pay South Coast AQMD to fund and administer funding agreements for regional charging and/or fueling infrastructure projects in the South Coast Air Basin, for the purpose of supporting off-port operations of zero-emission drayage trucks registered in the Ports Drayage Truck Registry (PDTR).
 1. Each Port shall pay South Coast AQMD a total of \$20 million per Port.
 2. Each Port agrees to negotiate with South Coast AQMD in good faith to enter into a memorandum of understanding (MOU) to specify a detailed payment schedule and other obligations pursuant to Section C.
 3. Each Port's payment to South Coast AQMD may be made in a single or multiple installments in accordance with the payment schedule to be determined in the subsequent MOU per A.2.
 4. Each Port intends to fund such payment(s) from its Clean Truck Fund (CTF) Rate revenues. Regardless, the payment amount and payment schedule pursuant to A.1 through A.3 shall not be limited nor altered by available CTF funds.
 5. The Port may elect to provide South Coast AQMD with a list of evaluation criteria in project selection, to be incorporated into the MOU.
 6. Each Port is solely responsible in determining that any funded project complies with the Tidelands Trust doctrine.

South Coast AQMD agrees to the following:

- B. South Coast AQMD agrees to negotiate with each Port in good faith to enter into an MOU as specified in Section C to support expansion of regional charging and/or fueling infrastructure projects in the South Coast Air Basin. Upon approval by the South Coast AQMD Governing Board of the MOU, South Coast AQMD shall:
 1. Select suitable projects to be funded by monies specified under A.1. and that are solicited through a public process, which may be conducted in conjunction with solicitations under existing incentive program(s) administered by South Coast AQMD;
 2. Consult with each Port in project selection consistent with the provisions of the MOU in C.;
 3. Ensure all necessary and applicable permits and entitlements or other requirements (e.g., CEQA/NEPA) are appropriately addressed; and

4. Administer funding agreements with selected project proponents.

Each City/Port and South Coast AQMD agree to the following:

- C. An MOU between the South Coast AQMD and each Port for regional charging and/or fueling infrastructure projects in the South Coast Air Basin in support of off-port zero-emission drayage truck operations, shall contain elements including but not limited to the following:
 1. Recitals;
 2. Payment of contributions and payment schedules;
 3. Project solicitation and administration;
 4. Project eligibility and key evaluation criteria;
 5. Process for uncommitted funds, including at minimum a timeline by which South Coast AQMD will allocate funds to eligible projects, otherwise forfeit and/or return funds to be subsequently utilized by the applicable Port for allocation to other clean drayage truck projects or programs, to ensure that funds are allocated as soon as practicable;
 6. Reporting schedule and report contents, the latter of which shall include at minimum: accounting of the funds received by South Coast AQMD from the Ports, project selection, project costs, funds disbursement, and status of selected projects;
 7. Public process to inform spending of funds; and
 8. Term and termination.
- D. Each Party shall negotiate the MOUs as specified in Section C and bring the respective final MOUs for necessary approval(s) for execution no later than February 28, 2027. The required approvals include but may not be limited to:
 1. Approval by South Coast AQMD Governing Board; and
 2. Approval by the applicable Port's Board of Harbor Commissioners.
- E. The public process for development of this MOU shall include discussion as an agenda item at a South Coast AQMD Technology Committee meeting prior to consideration by the South Coast AQMD Governing Board at a regularly scheduled meeting.
- F. South Coast AQMD shall track and report expenses for staff administration of project funding agreements, and deduct a fee in an amount not to exceed 10% of the awarded total per project.

ATTACHMENT B

KEY ELEMENTS OF PROPOSAL

The proposed Addendum to the Cooperative Agreement consists of three components: 1) Preamble; 2) Attachment A, Part A2: CAAP Plus Measures – Port Emission Reduction Programs (“Incentive Measures”); and 3) Attachment A, Part A3: CAAP Plus Measure – Regional Off-Port Truck Charging and Fueling Infrastructure (“Regional Infrastructure Measure”).

1) Preamble

The Preamble provides the background and purpose of the proposed Addendum and specifies that three additional CAAP Plus measures will be added to the Cooperative Agreement in Attachment A, with two incentive measures in Part A2 and one regional infrastructure measure in Part A3. The focus of developing the additional measures is described in the Preamble: completion of enforceable actions within the five-year term of the Cooperative Agreement; a clear role for the Ports in controlling completion of an enforceable action; a clear role for South Coast AQMD in monitoring and enforcing measure implementation; and public engagement opportunities during measure implementation. Overall, the additional measures will complement zero-emission on-port infrastructure planning and implementation required in the current agreement.

The CAAP Plus measures, i.e., the Port Zero-Emission Infrastructure Plans measure in the current agreement and the additional measures, do not represent the entirety of efforts in addressing port emissions, including collaborative work between the Ports and South Coast AQMD outside of the Cooperative Agreement. Therefore, the Preamble highlights the Ports’ commitments that will occur concurrently with the implementation of the Cooperative Agreement but are not part of the agreement. South Coast AQMD will work collaboratively with the Ports on these Ports-led commitments, which are listed below with details anticipated to be publicly released by the Ports.

- Conducting a Clean Marine Fuels Assessment
- Releasing a solicitation for a Clean Marine Fuel Pilot Project
- Conducting a technical study on vessel emissions at low-speed operations
- Preparing a Clean Truck Fund Rate Spending Plan
- Developing a projection of Zero-Emission Cargo Handling Equipment Deployments

The preamble also specifies that all terms and conditions stipulated in the current Cooperative Agreement, including the enforcement provisions, are applicable to the additional measures.

2) Incentive Measures

Two Port-funded incentive programs are proposed that will provide potential emission reductions from ocean-going vessels and drayage trucks.

Enhanced Clean Ship Incentive Program

- The measure will require each Port to enhance its current clean ship incentive program to increase clean vessel calls. Each Port will determine and align varying incentive levels to a vessel's Environmental Ship Index (ESI) 2.0 score (i.e., a point value assigned to participating ocean going vessels that perform beyond current International Maritime Organization's requirements). The enhancements may also include additional "plus-up" incentives for the cleanest vessels. Each Port's proposed program will be brought to their respective Board of Harbor Commissioners for approval within 12 months after ESI 2.0 is approved by the International Association of Ports and Harbors.

Zero-Emission Truck Utilization Incentive Program

- The measure will require each Port to develop and implement a new incentive program to encourage the deployment of zero-emission drayage trucks serving marine terminals at the San Pedro Bay Ports. Each Port's proposed program will be brought to their respective Board of Harbor Commissioners for approval by February 28, 2027.

Additional key provisions for these two measures include an overview of the program. This includes a description and justification of the program design and the responsibilities of each party to the agreement. The description must also specify anticipated program participation goals and program funding mechanisms.

The measure also specifies the required processes for measure implementation, including specific steps, timeline, and an enforceable public process that includes opportunities for the public and South Coast AQMD to review and comment on draft programs through at minimum one public meeting or anytime during the 45-day review period. Prior to each Port's Board approval, draft final programs will be released for public review, and South Coast AQMD will verify the completeness of the proposed final program. Each Port must also provide responses to all comments received on the draft and proposed final programs.

To provide transparency during the implementation of the measures, the Ports will establish metrics for program implementation tracking and reporting. The metrics must be established such that they allow for evaluation of potential clean air benefits. The Ports will release an annual report to the public disclosing performance data of the program based on the program metrics. Program evaluation is required to assess program effectiveness. The programs will be evaluated based on the established metrics and the Ports will release a draft evaluation approach(es) for public review and comment. Comments and responses will be included in the final evaluation report that will be made

publicly available. Based on findings and recommendations from the evaluation, program revisions may be made.

Similar to the current agreement, enforcement provisions were added to ensure the measures are implemented according to the proposed Addendum. Contract defaults are defined, and the Ports will be required to pay into the Clean Air Mitigation Fund for any default that may occur. Time extensions for program development and approval are also allowed for reasons beyond the Port's control.

3) Regional Infrastructure Measure

Under the *Regional Off-Port Truck Charging and Fueling Infrastructure* measure, the Ports will provide \$40 million in total (\$20 million per Port) to the South Coast AQMD to fund regional off-port charging and fueling infrastructure projects to further support zero-emission port drayage truck operations. The measure complements the Port Zero-Emission Infrastructure Plans measure in the current Cooperative Agreement that focuses on zero-emission infrastructure planning and implementation on Port-managed property.

South Coast AQMD will be responsible for managing and distributing funds to selected projects within a specific timeline. This measure further specifies that South Coast AQMD and each Port will enter into a subsequent memorandum of understanding (MOU) to determine administrative details outlined in this measure such as payment schedule and reporting of fund spending by the South Coast AQMD. The final MOUs must be brought for necessary approvals by each party's respective Boards no later than February 28, 2027, following a public process that includes an update to the South Coast AQMD Board's Technology Committee.

Recovery of reasonable costs, which are expected to be incurred by South Coast AQMD for staff's fund administration and project management, is also included in the measure. The incurred costs will be recovered through an administrative fee not to exceed 10 percent of awarded total per project.

ATTACHMENT C

RESOLUTION NO. 26-_____

A Resolution of the South Coast Air Quality Management District (South Coast AQMD) Governing Board determining that the additional measures in the proposed Addendum to the Cooperative Agreement between South Coast AQMD and the Ports of Long Beach and Los Angeles (Cooperative Agreement), qualify as a later activity within the scope of the programs approved earlier in the 2022 and 2016 Air Quality Management Plans (AQMPs) per California Environmental Quality Act (CEQA) Guidelines Section 15168(c), and that the Final Program Environmental Impact Report (EIR) for the 2022 AQMP and the Final Program EIR for the 2016 AQMPs adequately describe the activity for the purposes of CEQA such that no new environmental document is required.

A Resolution of the South Coast AQMD Governing Board determining that the cost recovery provision in the proposed Addendum to the Cooperative Agreement is exempt from the requirements of CEQA.

A Resolution of the South Coast AQMD Governing Board determining that nothing in the proposed Addendum to the Cooperative Agreement changes the prior determination that the creation of the Clean Air Mitigation Fund in the Cooperative Agreement is not a project within the meaning of CEQA.

A Resolution of the South Coast AQMD Governing Board authorizing the Executive Officer to execute the Addendum to the Cooperative Agreement.

WHEREAS, the Cooperative Agreement adopted by the South Coast AQMD Board on November 7, 2025 and effective December 17, 2025 is an enforceable contract that included a “Clean Air Action Plan Plus (CAAP Plus) Measure” that requires planning and implementation of zero-emission on-port infrastructure by the Ports of Long Beach and Los Angeles, and the South Coast AQMD and the Ports of Long Beach and Los Angeles agreed in the Cooperative Agreement to negotiate additional measures that led to the Addendum to the Cooperative Agreement before the Governing Board in this Resolution; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that the additional measures and cost recovery provision in the proposed Addendum to the Cooperative Agreement are considered a "project" as defined by CEQA; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that nothing in the proposed Addendum to the Cooperative Agreement changes the prior determination that establishing the Clean Air Mitigation Fund, which is a government funding mechanism without involving a commitment to any specific project that could result in a potentially significant physical impact on the environment, in the Cooperative Agreement is not considered a “project” within the meaning of CEQA pursuant to CEQA Guidelines Section 15378(b)(4); and

WHEREAS, the South Coast AQMD Governing Board finds and determines that: 1) the additional measures in the proposed Addendum to the Cooperative Agreement implement a portion of Control Measure MOB-01 – Emission Reductions at Commercial Marine Ports, which was previously adopted in the 2016 and 2022 AQMPs, and Control Measure MOB-15 – Zero-Emission Infrastructure for Mobile Sources, which was previously adopted in the 2022 AQMP; 2) no subsequent EIR would be required pursuant to CEQA Guidelines Section 15168(c)(2) because there are no new or modified physical changes that are expected to result from the implementation of the additional measures in the proposed Addendum to the Cooperative Agreement which were not previously analyzed for Control Measures MOB-01 and MOB-15 either in the Final Program EIR for the 2022 AQMP and/or the Final Program EIR for the 2016 AQMP, as applicable; and 3) the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP can be relied on for CEQA compliance; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that the additional measures in the proposed Addendum to the Cooperative Agreement qualify as a later activity within the scope of the programs approved earlier in the 2022 AQMP and the 2016 AQMP as set forth in CEQA Guidelines Section 15168(c)(2), and the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP adequately describe and analyze the activities associated with the implementation of additional measures in the proposed Addendum to the Cooperative Agreement for the purposes of CEQA such that no new environmental document is required; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that, based on substantial evidence in the record and in accordance with the noticing requirements in CEQA Guidelines Section 15168(e), the additional measures in the proposed Addendum to the Cooperative Agreement qualify as a later activity within the scope of the programs approved earlier for the 2022 AQMP and 2016 AQMP, and the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP adequately describe the activity for the purposes of CEQA; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that, after conducting a review of the cost recovery provision specified in the proposed Addendum to the Cooperative Agreement in accordance with CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA, and CEQA Guidelines Section 15061 – Review for Exemption, that the cost recovery provision in the proposed Addendum to the Cooperative Agreement is statutorily exempt from CEQA pursuant to CEQA Guidelines Section 15273 because it establishes charges for the purpose of meeting operating expenses; and

WHEREAS, the South Coast AQMD staff has prepared a Notice of Exemption for the cost recovery provision specified in the proposed Addendum to the Cooperative Agreement, that is completed in compliance with CEQA Guidelines Section 15062 – Notice of Exemption; and

WHEREAS, the South Coast AQMD Governing Board has determined that no socioeconomic impact assessment is required by Health and Safety Code Section 40440.8(a) since approving the proposed Addendum to the Cooperative Agreement is not adopting or amending a rule or regulation; and

WHEREAS, the South Coast AQMD Governing Board obtains its authority to enter into the Addendum to the Cooperative Agreement from Health and Safety Code Sections 40701(f) and 40702; and

WHEREAS, staff from the South Coast AQMD and the Ports of Long Beach and Los Angeles have negotiated in good faith for additional CAAP Plus measures pursuant to the Cooperative Agreement and solicited public input through public meetings, office hours, individual stakeholder group meetings, and a public comment period, to inform the development of the additional measures before concluding the negotiation, and staff from the South Coast AQMD has provided three updates to the South Coast AQMD Governing Board's Mobile Source Committee; and

WHEREAS, the additional measures are included to complement the current agreement that requires zero-emission on-port infrastructure planning and implementation, and the development of additional measures focused on enforceable actions that can be completed by the Ports of Long Beach and Los Angeles within the five-year term of the agreement, provide a clear role for South Coast AQMD to monitor and enforce measure implementation, and incorporate public engagement opportunities throughout the process; and

WHEREAS, Health and Safety Code Sections 40913, 40914, and 40920.5 require pursuit of all feasible measures, including regulatory and/or non-regulatory measures, to achieve and maintain state air quality standards, and the Cooperative Agreement, together with the proposed Addendum to the Cooperative Agreement, are collectively a non-regulatory measure that will facilitate or result in emission reductions from port-related mobile sources and accelerate infrastructure development for port-related mobile sources and is therefore consistent with the objectives of AQMP Control Measures MOB-01 and MOB-15; and

WHEREAS, the South Coast AQMD, through its upcoming AQMP and State Implementation Plan (SIP) efforts, will continue to evaluate regional emissions trends and determine the remaining emissions reduction needs from port sources and all other sources in the South Coast Air Basin, in order to achieve and maintain state and federal ambient air quality standards while accounting for the latest international, federal, state, and local regulations, incentives, and other relevant programs; and

WHEREAS, there are ongoing collaborative and individual efforts outside of the Cooperative Agreement, and the Cooperative Agreement and the proposed Addendum to the Cooperative Agreement do not represent the entirety of efforts in addressing port emissions that are collaboratively or individually conducted by the South Coast AQMD and the Ports of Long Beach and Los Angeles; and

WHEREAS, the South Coast AQMD Governing Board’s November 7, 2025 direction to staff related to the Cooperative Agreement remains unchanged; and

WHEREAS, the Ports of Long Beach and Los Angeles have scheduled the Addendum to the Cooperative Agreement to be approved by their respective Boards of Harbor Commissioners on August 10, 2026 and August 13, 2026; and

WHEREAS, the South Coast AQMD Governing Board specifies the Planning and Rules Manager overseeing the negotiations for the Addendum to the Cooperative Agreement as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of this Addendum to the Cooperative Agreement is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California; and

NOW, THEREFORE BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby determine, pursuant to the authority granted by law, that: the additional measures in the proposed Addendum to the Cooperative Agreement qualify as a later activity within the scope of the programs approved earlier for the 2022 AQMP and 2016 AQMP per CEQA Guidelines Section 15168(c), and the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP adequately describe the activity for the purposes of CEQA such that no new environmental document is required; the cost recovery provision in the Addendum to the Cooperative Agreement is statutorily exempt from CEQA pursuant to CEQA Guidelines Section 15273; and nothing in the Addendum to the Cooperative Agreement changes the prior determination that the creation of the Clean Air Mitigation Fund, which is a government funding mechanism without involving a commitment to any specific project that could result in a potentially significant physical impact on the environment, in the Cooperative Agreement is not considered a “project” within the meaning of CEQA pursuant to CEQA Guidelines Section 15378(b)(4). This information was presented to the South Coast AQMD Governing Board, whose members exercised their independent judgment and reviewed, considered, and approved the information therein prior to executing the Addendum to the Cooperative Agreement; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board’s November 7, 2025 direction to staff to report back to the South Coast AQMD Governing Board on the status of implementation of the Cooperative Agreement is reaffirmed and shall encompass the additional measures included in the proposed Addendum to the Cooperative Agreement, and the South Coast AQMD Governing Board further directs staff to provide semiannual updates to the Mobile Source Committee starting no later than December 2026, on the Cooperative Agreement’s implementation; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board’s November 7, 2025 direction to staff to conduct and present publicly to the Mobile Source Committee an analysis of potential emissions benefits of each approved plan under the Cooperative Agreement is reaffirmed and shall encompass approved incentive programs included in the additional measures, and when presenting these analyses to the Mobile Source Committee, staff is directed to also include a discussion of emissions trends

from port sources, as well as remaining emissions reduction needs from port sources and all other sources as determined in upcoming AQMP and SIP planning efforts; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board directs staff to continue tracking port emissions reported by the Ports of Long Beach and Los Angeles in their respective annual emissions inventories, to work collaboratively with both Ports on the use of best-practice data and methodology in their emissions inventories, to evaluate how CAAP Plus measures affect future emission reduction trends, and to use this and any other relevant data such as remaining emissions reduction needs as determined in upcoming AQMP and SIP planning efforts, to help inform staff's subsequent recommended action to the Board before the end of the term of the Cooperative Agreement as described in the Board's November 7, 2025 resolution; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board directs staff to make publicly available staff reports, updates, and recommendations to the South Coast AQMD Governing Board and its Mobile Source Committee pertaining to the Cooperative Agreement, as well as the methodology, data, and calculations used for all analyses of potential emissions benefits pertaining to the Cooperative Agreement, except for records qualifying for exemption from disclosure under Section IV of South Coast AQMD's *Guidelines for Implementing the California Public Records Act*; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board directs staff to seek additional opportunities to further address port emissions from all port sources, including emission sources not specifically included in this Addendum such as locomotives, at-anchor ocean-going vessels, and commercial harbor craft, including by collaborating with the Ports of Long Beach and Los Angeles; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby authorize the Executive Officer to execute the Addendum to the Cooperative Agreement between South Coast AQMD and the Ports of Long Beach and Los Angeles as set forth in the attached, and incorporated herein by reference.

DATE: _____

CLERK OF THE BOARDS

ATTACHMENT D
PUBLIC PROCESS

During the negotiation and development of additional measures to be incorporated into the Cooperative Agreement, staff in conjunction with the Ports conducted a parallel public process to receive public input and suggestions, respond to questions, and address stakeholder comments on the proposed Addendum. The public process consisted of public meetings, office hours sessions, and a public comment period.

Between December 2025 and June 2026, staff from South Coast AQMD and the Ports conducted four virtual public meetings and held a hybrid community meeting in the port-adjacent community with a remote option where stakeholders with different backgrounds had the opportunity to discuss and suggest ideas for additional measures in breakout groups followed by report-outs by each group. Staff also held six virtual office hours sessions, typically after each public meeting, to give stakeholders additional opportunities to provide further comments and ask questions on the development of additional measures. Staff provided three updates to the Mobile Source Committee and two updates to the AB 617 Wilmington / Carson / West Long Beach Community Steering Committee (WCWLB CSC) on the proposed Addendum, and also met with individual stakeholder groups in separate small group meetings.

Stakeholder engagement opportunities included asking questions and providing comments in meetings and office hours, submitting comments through email, and submitting ideas for additional measures through an online comment submission form. All input received throughout the public process was considered in negotiations between the Ports and South Coast AQMD staff. Agreed upon changes were reflected in the iterations of the proposed Addendum that were released for public review.

Below is a summary of the public process conducted:

December 2025 – August 2026	• 4 Virtual Public Meetings • 1 Hybrid Community Meeting in Port-Adjacent Community • 6 Virtual Office Hour Sessions • 3 Mobile Source Committee Updates • 2 AB 617 WCWLB CSC Updates • Meetings with Individual Stakeholder Groups • Released Draft and Revised Draft Proposed Addendum • Received and Responded to Public Comments
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The Ports also independently provided updates on the proposed Addendum through their quarterly Clean Air Action Plan Stakeholder Updates and respective Monthly Environmental and Community Meetings.

ATTACHMENT E

KEY COMMENTS ADDRESSED

Throughout the negotiation and development of additional measures to be incorporated into the Cooperative Agreement, staff from South Coast AQMD and the Ports worked with stakeholders to understand and respond to their comments. A summary of the key comments addressed can be found in the table below.

Key Comments Received During Public Process and How They Were Addressed

Key Comments	How Key Comments Were Addressed
Many supporting comments for additional measures, with specific suggestions for design of programs included in each measure	Program design is not specified in the proposed Addendum per se; however, such comments will be considered by the Ports during measure implementation, such as comments on incentive amount or incentive categories.
Increase transparency and outreach	Public process is an enforceable requirement: • Specified in the proposed Addendum for both program development and evaluation • Public review period increased from 30 days in the draft Addendum to 45 days in the revised draft Addendum Public report-out is also required: • Requiring tracking, reporting and evaluation of program performance based on specific metrics to be established during program development • Requiring public release of performance data and evaluation reports for each program South Coast AQMD staff will provide implementation updates: • Board direction to staff to provide regular updates on implementation of Cooperative Agreement to the Board and the Mobile Source Committee
Evaluate programs based on public health outcomes	Programs that will be developed as part of measure implementation are action-based and include specific program tracking and reporting metrics that can be used to evaluate clean air benefits. Air quality results are tracked or projected separately: • Ports' annual emissions inventories • South Coast AQMD studies (e.g., Multiple Air Toxics Exposure Study, Air Quality Management Plans, potential emissions benefits analysis based on plans/programs to be developed per the Cooperative Agreement and the proposed Addendum)

Include target deadlines for the utilities	Electrical utilities are not parties to the Cooperative Agreement; however, the Ports will work with their respective utilities to identify the necessary actions and schedules for the utilities to provide the necessary electrical infrastructure upgrades. Such information will be provided in the Ports' respective zero-emission infrastructure plans.
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ATTACHMENT F
RESPONSES TO COMMENTS

This attachment includes responses to comments received after November 7, 2025 when South Coast AQMD Governing Board approved the Cooperative Agreement with the Ports of Long Beach and Los Angeles (hereinafter “Ports”) on zero-emission port infrastructure planning and implementation. Since then, staff from South Coast AQMD and the Ports of Long Beach and Los Angeles continued negotiations on additional Clean Air Action Plan Plus (“CAAP Plus”) measures for potential incorporation into the Cooperative Agreement. A parallel public process was conducted to solicit input and suggestions from stakeholders and members of the public. The comments received were either submitted in writing and/or expressed verbally during five community and public meetings and six office hours sessions held between December 12, 2025 and June 17, 2026. The verbal and written comments share similar themes. The responses below are provided for the written comments received, either by staff from South Coast AQMD and the Ports separately or jointly by staff from all parties to the Cooperative Agreement, and the responses are noted as such.

Proposed Addendum to the Cooperative Agreement Written Comment Index

Written Comment Number	Organization(s) / Individual(s)	Date Sent	Page
1	Ann Dorsey	January 26, 2026	4
2	Kevin Walsh	January 26, 2026	5
3	Jamie Scott and Felix Breden	January 27, 2026	6
4	Terrence McNally	February 19, 2026	7
5	Ann Dorsey	February 22, 2026	8
6	Clean Energy	March 11, 2026	9
7	Earthjustice, Center for Community Action & Environmental Justice, East Yard Communities for Environmental Justice, Long Beach Alliance for Children with Asthma, Natural Resources Defense Council, Pacific Environment, San Pedro & Peninsula Homeowners Coalition, Sierra Club, West Long Beach Association	March 17, 2026	14
8	Pacific Merchant Shipping Association	May 5, 2026	22
9	Pacific Environment	May 12, 2026	30
10	Utility Workers Union of America Local 483	May 14, 2026	36
11	California Environmental Voters	May 28, 2026	38
12	Pacific Merchant Shipping Association	May 29, 2026	43
13	Harbor Trucking Association	May 29, 2026	49
14	Biotech Energy Solutions, Inc.	May 29, 2026	51
15	Earthjustice, Center for Community Action & Environmental Justice, Natural Resources Defense Council, Pacific Environment, San Pedro & Peninsula	June 5, 2026	92

	Homeowners Coalition, Sierra Club, West Long Beach Association		
16	Western States Petroleum Association	July 20, 2026	101
17	Coalition for Clean Air	July 23, 2026	105

Written Comment #1 from Ann Dorsey

[REDACTED]

From: Ann Dorsey [REDACTED]
Sent: Monday, January 26, 2026 8:52 PM
To: Ports Comments
Subject: [EXTERNAL] Enact a strong port air regulations

South Coast Air Quality Management District,

I urge you to enact strong air pollution regulations at ports. The ports of Los Angeles and Long Beach are together the largest sources of toxic air pollution in Southern California, and as such need to be held accountable for reducing those emissions. A five-year pause on rulemaking in exchange for infrastructure planning without enforceable targets, and meaningful consequences for non-compliance is totally inadequate and must be replaced with guaranteed emission reductions that will protect our communities. Nothing less is acceptable.

Thank you,

Ann Dorsey
[REDACTED]

Staff Response to Written Comment #1:

Staff appreciates the comment; however, this comment pertains to the current Cooperative Agreement, approved by the South Coast AQMD Governing Board on November 7, 2025, and not the proposed Addendum. Relevant responses were previously provided in Attachment F of the November 7, 2025 Public Hearing package, specifically Main Response 2 (pages 2-3) and Main Response 5 (page 5) (available at: <https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-nov7-030.pdf>).

Written Comment #2 from Kevin Walsh

From:
Sent:
To:
Subject:

Monday, January 26, 2026 1:29 PM
Ports Comments
[EXTERNAL] Hold the Ports Accountable for Clean Air

Hold the Ports Accountable for Clean Air

Staff Response to Written Comment #2:

The Cooperative Agreement and the proposed Addendum to the Cooperative Agreement will result in or facilitate emission reductions from port sources. Additionally, the enforcement provisions in the agreement are included for accountability and enforceability purposes.

Written Comment #3 from Jamie Scott and Felix Breden

[REDACTED]

From: Jamie Scott [REDACTED]
Sent: Tuesday, January 27, 2026 12:51 PM
To: Ports Comments
Cc: Jamie Scott; Felix Breden
Subject: [EXTERNAL] Comments for AQMD meeting in Wilmington

Dear AQMD Members,

We cannot attend the Conference tomorrow and so are sending you our written comments.

We are concerned that the Cooperative Agreement made between AQMD and the LA and Long Beach Ports have **failed to set clear emission-reduction targets**.

You must realize that if you don't set targets, then significant reductions are unlikely to occur over the coming 5 years of the Agreement.

Please reconsider this mistake and set clear, annual reduction-targets that the Ports must comply with. In addition, define clear and costly consequences for the Ports should they fail to comply with those targets.

It's really the only way you can make progress.

Otherwise your work will be seen as a failure by the taxpayers, and will continue to cause great harm to the public health.

Sincerely yours

Jamie Scott, and Felix Breden

Jamie Scott, MD, PhD & Felix Breden, PhD
(she/her/hers & he/him/his)

[REDACTED]

[REDACTED]

[REDACTED]

We gratefully acknowledge that we work, play and live on the traditional lands of the Gabrieliño-Tongva peoples.

Staff Response to Written Comment #3:

Please refer to Staff Response to Comment #1.

Written Comment #4 from Terrence McNally

[REDACTED]

From: Terrence McNally <[REDACTED]>
Sent: Thursday, February 19, 2026 1:17 PM
To: Ports Comments
Subject: [EXTERNAL] Public comments re Air Quality and the Ports

I live in Long Beach 2 blocks from the ocean and a short distance from the port of Long Beach.

The ports of Los Angeles and Long Beach are together the largest sources of toxic air pollution in Southern California.

Rather than imposing a strict rule re improving air quality, the South Coast AQMD and the Ports have opted for a 5-year Memorandum of Understanding (MOU)

Vague voluntary promises and the Cooperative Agreement that recently went into effect are not enough. We need measurable, enforceable emissions reductions.

I urge you to renegotiate the existing Clean Air Action Plan until the ports finally commit to the aggressive measures needed to truly clear our skies.

Thank you,
Terrence

Terrence McNally
[REDACTED]

Free Forum - [Apple Podcasts](#)
[Disruptive podcast](#) - Harvard's [Wyss Institute](#)
[aworldthatjustmightwork.com](#)

Staff Response to Written Comment #4:

Please refer to Staff Response to Comment #1.

Written Comment #5 from Ann Dorsey

[REDACTED]

From: Ann Dorsey [REDACTED]
Sent: Sunday, February 22, 2026 3:54 PM
To: Ports Comments
Subject: [EXTERNAL] 5-year Memorandum of Understanding

I am disappointed the South Coast AQMD and the Ports have opted for a 5-year Memorandum of Understanding (MOU) instead of strict regulations. A "memorandum" is only as good as its results. Vague promises are not enough. There must be measurable, enforceable emissions reductions. I urge you to deliver real health benefits for the millions of people living in the smoggiest air basin in the nation by enforcing regulations.

Thank you,

Ann Dorsey
[REDACTED]

Staff Response to Written Comment #5:

Please refer to Staff Response to Comment #1.



Todd R. Campbell

Vice President, Public Policy and Regulatory Affairs

March 11, 2026

Mr. Wayne Nastri, Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Dr. Noel Hacegaba
Chief Executive Officer
Port of Long Beach
P.O. Box 570
Long Beach, CA 90801

Mr. Gene Seroka
Executive Director
Port of Los Angeles
425 S. Palos Verdes Street
San Pedro, CA 90731

**Re: New Mitigation Measures designed to Complement the current South Coast AQMD
Cooperative Agreement with the Ports of Long Beach and Los Angeles.**

Dear Mr. Nastri, Dr. Hacegaba, and Mr. Seroka, and collective staff:
First, thank you for your joint leadership in forming the Cooperative Agreement between each of your organizations. Working together, the South Coast AQMD, the Port of Long Beach (PoLB), and the Port of Los Angeles (PoLA) will be collectively addressing port-related pollution together with the recognition that our regional ports and related goods movement system is a critical economic engine for the Southern California region.

Heavy-Duty Diesel Truck Pollution Must Be Addressed

While the Cooperative Agreement rightly prioritizes the development of zero-emission infrastructure at the ports, adding a new mitigation measure that can effectively address the pollution impacts generated by today's regional and interstate heavy-duty diesel trucks in the near- to mid-term is critical. Heavy-duty diesel trucks in the class 7-8 tractor class are the largest single source of pollution in the South Coast Air Basin and remain "hard-to-electrify".

Clean Energy

4675 MacArthur Court, Suite 800
Newport Beach, CA 92660
949.437.1000

CleanEnergyFuels.com

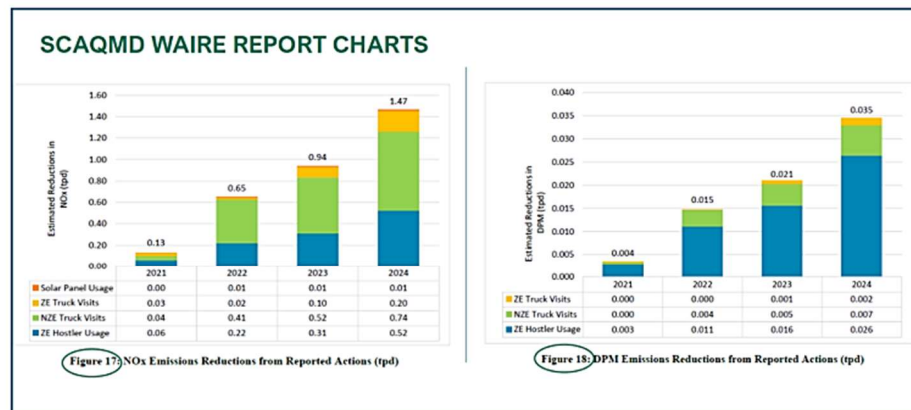
Comment
6-1



Meanwhile, Near Zero Emission (NZE) also called cleanest combustion trucks are an effective and immediate way to address this problem as demonstrated by the 3rd Annual Report for the Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program report published in January 2026.

WAIRE Data Demonstrates the Effectiveness of Near Zero Emission Trucks

Specifically, NZE trucks certified to California's 2010 Heavy-Duty Truck regulation's optional low NOx standard at 20mg (0.02g) remain the leading driver of NOx emissions reductions under the WAIRE program to date. Even though this strategy was only allowed to participate in the WAIRE program for 7 months before being removed from WAIRE when CARB replaced the 2010 standard with the Heavy-Duty Omnibus Regulation (Omnibus) on January 1, 2022, NZE trucks have accounted for over half of the program's total NOx emissions reductions for the last 3 years.



Comment
6-1, Cont'd

Federal Repeal of CARB's Omnibus Rule Makes NZE Mitigation Option Critical to Public Health

With the federal government's invalidation of California's Omnibus rule and California's 2010 model year truck standards, California fleets can legally purchase 200mg (0.2g) NOx trucks and operate them for up to 18 years per Senate Bill 1 passed in 2017. US EPA's version does not include the 20mg (0.02g) optional low NOx standard that WAIRE once relied upon. This situation literally opens up the flood gates for fleets to purchase new diesel trucks that meet a



minimal standard that was established 16+ years ago with no policy signal to regional or inter-state fleets to purchase cleaner combustion options that are available on today's market.

Proposed NZE Mitigation Option for the Joint Cooperative Agreement

We strongly recommend that the South Coast AQMD and the San Pedro Bay Ports incentivize the operation of cleanest combustion trucks at the San Pedro Bay Port Complex moving forward. This can be achieved by setting a NZE emissions target based on an engine's certified Family Emission Limit (FEL). For example, the Joint Cooperative Agreement can incentivize NZE trucks to operate in the Ports and the regional goods movement system that meet a FEL set at 50mg (0.05g) or 35mg (0.035g) NOx. Such an action would help prevent the purchase of new 200mg (0.2g) diesel engines within the South Coast Air Basin and deliver tangible and much needed protections to our most impacted communities.

Omnibus certified engines are functionally equivalent to engines previously certified to the 20mg Optional Low NOx standard

For example, the Cummins L9N engine was certified to the 20mg (0.02g) Optional Low NOx standard under California's 2010 emission regulations. Following implementation of Omnibus in California, that same L9N engine was certified to 50mg (0.05g) NOx. Cummins natural gas engines are being voluntarily certified under Omnibus, even today. The 2024 Omnibus regulation was appropriately titled because it instituted much stricter low-load and real-world testing requirements. From a practical perspective, only natural engines have been able to meet at commercial volumes. At this time, engines certified at or below 50mg (0.05g) NOx under Omnibus are truly the cleanest combustion engines available anywhere in the world. Hence, incentivizing trucks that meet a stricter FEL standard at Omnibus or lower levels prevents 200mg (0.2g) engine operations that meet overall stricter standards.

Adopting a NZE Mitigation Option is Good Public Policy for the South Coast

Adopting a NZE mitigation option based on a FEL at or below 50mg (0.05g) NOx not only will help improve overall air quality from trucks operating throughout our region's goods movement system (i.e., ports, warehouses, other goods movement destinations), it also supports those engine manufacturers and fuel providers who made the necessary investments to support the state's clean heavy-duty truck standards. Making the transition to a zero emission future will take time. California's policies for ZEV light-duty passenger cars started in the early 1990s and, 36 years later, ZEV passenger car sales accounted for a little over 20% of total new car sales. Much like the light-duty sector, California and other region's throughout the country will need clean combustion strategies for the next several decades.

Comment
6-1, Cont'd

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6-2

Comment
6-3



Conclusion

If the South Coast Air Basin is to ever achieve clean air attainment with the federal Clean Air Act standards, we must strive for a zero emissions future and encourage the cleanest combustion options available to us when electrification cannot meet our regional trucking needs. We therefore strongly urge the AQMD Board and our Port Authorities to embrace a heavy-duty truck mitigation strategy in its Joint Cooperative Agreement that all port, warehouse and goods movement operators can participate in.

Sincerely,

A handwritten signature in black ink, appearing to read 'Todd R. Campbell'.

Todd R. Campbell
VP, Public Policy & Regulatory Affairs

Comment
6-3, Cont'd

Responses to Written Comment #6:

Staff Response to Comment 6-1

Staff appreciates the detailed technical information provided in the comment and acknowledgement of the challenges faced by California and its air pollution control agencies that

resulted from recent federal actions. As evidenced by the comment's reference to the WAIRE program and citation of WAIRE program statistics, the Cooperative Agreement is an important effort, but not the only one undertaken by the South Coast AQMD in reducing emissions associated with the goods movement sector, including from heavy-duty truck operations. Please refer to Ports Response to Comment 6-2 below with regards to the Ports' policy.

Ports Response to Comment 6-2

While we understand the potential to achieve near term emission reductions through deployment of combustion technologies that have lower emission levels than conventional diesel equipment, the Ports have committed to achieving zero-emission operation of drayage trucks and cargo-handling equipment. Further, for drayage trucks specifically, the Board of Harbor Commissioners for each Port has reaffirmed this commitment by directing staff to limit spending of Clean Truck Fund revenue to zero-emission trucks and supporting infrastructure. This commitment to a zero-emission transition is reflected in the Cooperative Agreement, which requires the Ports to develop zero-emission infrastructure plans for the five major sources of emissions.

Staff Response to Comment 6-3

Staff recognizes the regulatory uncertainty for clean technology investments resulting from recent federal actions. South Coast AQMD has worked collaboratively with original equipment manufacturers (OEM) and fuel providers in developing and deploying clean air solutions to address NOx emissions from the good movement sector through incentives and rulemaking efforts. We are committed to continuing the collaboration while maintaining our fuel-neutral approach in developing and implementing the regional attainment strategy. South Coast AQMD's focus is achieving air quality standards and reducing air quality impacts, and multiple fuel pathways will be needed to achieve these goals. However, not all fuel types are feasible for all applications due to operational, technical, financial, and public and user acceptability constraints. The Cooperative Agreement is one of many mechanisms South Coast AQMD is relying on to meet air quality standards, and any limits on fuel pathways here do not necessarily constitute widespread approaches that apply to all other air quality measures. Please refer to Ports Response to Comment 6-2 above related to the Ports' policy.



March 17, 2026

Mayor Bass
200 N. Spring St.
Los Angeles, CA 90012

Mayor Richardson
411 W. Ocean Blvd.
Long Beach, CA 90802

Chair Cacciotti and Members of the Governing Board
South Coast Air Quality Management District
21865 Copley Dr.
Diamond Bar, CA 91765

RE: CAAP Plus Measures Recommendations for Ports Cooperative Agreement

Dear Mayor Bass, Mayor Richardson, and Chair Cacciotti and Members of the South Coast Air Quality Management Governing Board,

On behalf of the undersigned members of the Trade, Health, and Environment (THE) Impact Project coalition, we write to provide recommendations for additional Clean Air Action Plus measures to be adopted in the Ports' Cooperative Agreement with the South Coast Air Quality Management District. The following recommendations include community demands for short- to medium-term actions that will facilitate meaningful emission reductions at the San Pedro Bay Ports.

The Ports Cooperative Agreement approved in November 2025 directs the San Pedro Bay Ports to develop zero-emission infrastructure plans, but notably failed to include measures that would catalyze the transition to zero-emissions equipment at the Ports. As the Ports did not support a

Comment
7-1

regulatory pathway, we expect the Ports to now commit to meaningful actions that will result in significant emission reductions and relieve the pollution burdens of frontline communities.

We request that the Ports adopt the following recommendations, which fall into two categories: (1) actions that ensure transparency and accountability to the portside community; and (2) policies that will incentivize adoption of zero-emissions equipment at the Ports.

The San Pedro Bay Ports remain the largest fixed source of air pollution in the South Coast Air Basin, and progress to reduce emissions has slowed considerably in the past several years. Therefore, we request that the Ports take the following actions to provide transparency on the pollution attributable to port operations:

The Ports must commission and fund a health risk assessment, to be completed by December 31, 2028, and updated at least every five years thereafter.

- The health risk assessment must be conducted by a third party and assess all known health effects caused by toxic air contaminants and other pollutants emitted from port operations.
- The assessment must include the anticipated death rates associated with port pollution and an analysis of linkage of death events to specific pollutants and related medical diagnoses. In addition, the third party must analyze the economic impacts on these health impacts, including costs of premature deaths due to port pollution.
- The health risk assessment, and any data used to inform the analysis, must be made public and posted online to ensure easy access. The Ports shall provide a summary of the health risk assessment's findings in their subsequent State of the Port meetings.

The Ports must set emission reduction goals, by August 2026, to inform future actions to reduce pollution associated with port operations.

- The current Cooperative Agreement and the Ports' Clean Air Action Plan are insufficient to address the harmful emissions associated with port operations and do not reflect the region's nonattainment status. The Ports must set new reduction targets for the following pollutants: NOx, PM2.5, PM10, NO2, VOC, CO2.
- These emission goals must be tied to attainment of national and state ambient air quality standards. Determining these emission reduction goals is an essential first step necessary to inform what actions the Ports must take and the timeline for these actions, including any infrastructure plans developed under the approved Cooperative Agreement.
- The Ports shall provide annual progress reports for each terminal to allow the public to track whether port operations are meeting emission reduction goals, and present on the progress to their respective Harbor Commissions and quarterly Clean Air Action Plan meetings.

Comment
7-1, Cont'd

Comment
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7-3

For the next fiscal year, the Ports must allocate adequate funding for their community mitigation funds of at least \$25 million each. The Ports must create a mechanism to determine annual funding amounts in subsequent years, based on cargo volumes.

- The community mitigation fund must be dedicated to zero-emission projects that are a priority for port communities and other needs as determined by the public. This may include projects to deploy battery-electric trucks and switcher locomotives, installation of additional air quality monitors and purchases of air filters for residents affected by port pollution.
- The Ports must conduct public workshops and targeted outreach to community, including collaboration with designated community representatives and Wilmington/Carson/West Long Beach AB617 Community Steering Committee members, to inform selection of zero-emission projects. We recommend that a committee including community representatives be established to steward the mitigation fund, and that AB617 working group members be granted a decision-making role to determine how funds are spent.
- The Ports must issue quarterly reports on the status of the community mitigation fund, including types of projects seeking funding, total funds spent, and remaining funds available. This information must be presented to the committee established to steward the mitigation fund.

As noted above, there is an urgent need to clean up port equipment and transition to zero-emissions, particularly as both Ports continue to experience record-breaking cargo throughput and are forecasting further expansion to accommodate increases in throughput. Growth of port operations cannot occur without the Ports taking action to rectify the air pollution problems that portside communities already face. Therefore, we request that the Ports adopt the following policies, which build on programs that the Ports have previously implemented and will provide the incentives necessary to facilitate the deployment of zero-emission port equipment.

Oceangoing Vessels

- The Ports must update their respective Ship Incentive Programs by January 1, 2027, and invest sufficient funding to encourage shipping companies to adopt cleaner technologies. Specifically, we request that each Port devote at least \$10 million per year to their Ship Incentive Programs, and update the per call incentive offered to (1) vessels that meet the highest Environmental Ship Index (ESI) score; (2) vessels with Tier III engines or cleaner; or (3) vessels that use cleaner marine fuels.
- If a Port has not spent \$10 million per year on their Ship Incentive Program, the remaining amount will be deposited into the Technology Advancement Program for funding of zero-emission projects at that Port.
- The Ports must provide monthly reports to the public on recipients of these incentives. Moreover, the Ports shall review incentive amounts on a bi-annual basis to assess effectiveness of the Programs in attracting cleaner vessels.

Comment
7-4

Comment
7-5

- We also encourage the Ports to develop a public report on clean technologies and alternative fuels that are being used globally, to assess potential pathways for reducing ship pollution, including assessment of any ports with 100% electrification targets. The Ports must conduct community outreach and engagement throughout development of this report.

Comment
7-5, Cont'd

Drayage Trucks

- By January 1, 2027, the Ports shall develop a roadmap to achieving the CAAP goal of 100% zero-emission drayage truck fleet by 2035, including interim benchmarks for 2028, 2030, and 2033. To inform this roadmap, the Ports must conduct an analysis of charging infrastructure needs and ZE truck adoption rate needed to achieve 2035 CAAP goal to inform this roadmap, and prepare an updated economic impact analysis of an increased Clean Truck Fund Rate (e.g. impacts for previously proposed \$70/TEU rate).
- Develop a 3-year pilot feebate program by June 30, 2026 that provides a per-trip incentive for zero-emission trucks picking up or dropping off a container at the Ports. Each Ports shall spend a minimum of \$10 million per year on the feebate program. If a Port does not disburse \$10 million annually through the feebate program, the remaining amount will be deposited into the Technology Advancement Program for funding of zero-emission projects at that Port.

Comment
7-6

Locomotives

- By December 2026, each Port commits to publicly supporting electrification of the Alameda Corridor and agrees to provide at least \$25 million to support overhead catenary infrastructure for the Alameda Corridor. Additionally, the Ports must commit, by the end of the year, to apply for state and local funding opportunities to electrify Alameda Corridor rail operations using overhead catenary, in coordination with the Alameda Corridor Transportation Authority (ACTA) and Caltrans.
- By December 2026, the Ports commit to supporting the ACTA to commission a plan to electrify the Alameda Corridor.

Comment
7-7

Additional Incentives for Port Equipment (including Cargo Handling Equipment & Harbor Craft)

- We have previously proposed an Alternative Clean Freight Fee, which would expand the Clean Trucks Program (\$10/TEU fee for non-exempted trucks) to containers moved by all modes of port equipment. This would create a greater pool of incentive funding that can go towards cleanup of harbor craft, locomotives, cargo handling equipment, and oceangoing vessels and buildout of necessary zero-emission infrastructure, such as charging stations and shorepower. The Ports must establish this program by end of 2026, with a fee of at least \$70/TEU.

Comment
7-8

We want to remind you that portside communities and everyone living in the Los Angeles region continue to breathe filthy air in large part due to port emissions. You have a duty to the public to devise a plan to clean up the many polluting port sources, and the proposed CAAP Plus measures are a step in that direction. We appreciate your consideration of the recommendations and welcome the opportunity to discuss further with you.

Sincerely,

Regina Hsu
Earthjustice

Marven Norman
Center for Community Action & Environmental Justice

Paola Vargas
East Yard Communities for Environmental Justice

Sylvia Betancourt
Long Beach Alliance for Children with Asthma

Alison Hahm
Natural Resources Defense Council

Cristhian Tapia-Delgado
Pacific Environment

Peter M. Warren
San Pedro & Peninsula Homeowners Coalition

Jennifer Maria Cardenas
Sierra Club

Theral Golden
West Long Beach Association

cc:

Los Angeles Board of Harbor Commissioners

Long Beach Board of Harbor Commissioners

Heather Tomley, Managing Director of Planning & Environmental Affairs, Port of Long Beach

Lisa Wunder, Director of Environmental Management, Port of Los Angeles

Ian MacMillan, Assistant Deputy Executive Officer, South Coast Air Quality Management District

5

Responses to Written Comment #7:

Staff Response to Comment 7-1

The focus of the current Cooperative Agreement on zero-emission port infrastructure planning and implementation was explained in Attachment F of the November 7, 2025 Public Hearing

package, specifically Main Response 5 (page 5) (available at: <https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-nov7-030.pdf>). The proposed Addendum to the Cooperative Agreement includes additional CAAP Plus measures that can complement zero-emission port infrastructure planning and implementation and will result in or further facilitate emission reductions from port-related operations. Negotiations of the additional measures focused on measures with actions that can be completed within the five-year term of the agreement, a clear role for the Ports to complete the specified actions, a clear role for South Coast AQMD to monitor and enforce measure implementation, and built-in stakeholder engagement throughout the development and implementation of the measure. Broader emission reduction strategies are not appropriate to include at this time in the framework of the Cooperative Agreement, but may be considered outside of the Cooperative Agreement and also following the completion of infrastructure planning. This planning effort is a critical first step needed before identifying future emission reduction and equipment deployment strategies. Staff also appreciates the two categories of recommendations, and details specific to each recommendation will be addressed in the remainder of responses to this comment letter.

Joint Response to Comment 7-2

There is already a substantial body of information regarding air toxics risks and health impacts in the region. South Coast AQMD has been regularly conducting its Multiple Air Toxics Exposure Study (MATES) since 1986 and is in the middle of the multi-year process of completing the sixth iteration of MATES. Each iteration of MATES updates the emissions inventory of toxic air contaminants in the region, including Ports-adjacent areas, and reassesses the cancer risk and chronic non-cancer risk from exposure to air toxics at the community-level. At the same time, during South Coast AQMD's development of the Air Quality Management Plans (AQMPs), the supporting Socioeconomic Report provides an evaluation of health effects, including the monetized health benefits (e.g., avoided premature deaths) and regional economic impacts that can be anticipated for regional attainment of state and federal ambient air quality standards. MATES and the AQMP both have individual public processes that are conducted during development of each report. The MATES V report and the associated data tools can be accessed via: <https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v>. The AQMP Socioeconomic Reports are available at: <https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan/socioeconomic-analysis>.

Ports Response to Comment 7-3

The Clean Air Action Plan (CAAP) set goals for reduction of priority pollutants (oxides of nitrogen, oxides of sulfur, diesel particulate matter) to be achieved by 2023 and maintained thereafter. Additionally, the CAAP sets future greenhouse gas (GHG) goals of 40% reduction below 1990 levels by 2030 and 80% reduction below 1990 levels by 2050. These goals continue to provide guidance on the Ports' pursuit of zero-emission technologies.

The purpose of the Addendum to the Cooperative Agreement is to identify opportunities to reduce emissions in the near-term and/or facilitate future quantifiable emission reductions from port-related operations. Zero-emissions infrastructure planning is a critical step needed before identifying additional future emission reduction goals and infrastructure deployment strategies.

Emission reductions for priority pollutants and GHG are reported annually through each Port's Inventory of Air Emissions.

Ports Response to Comment 7-4

Both Ports have established community benefit programs and have already committed over \$150 million to these programs that fund a variety of projects, including zero-emission projects for Port communities. These programs include a robust public process to solicit applications, provide input on how funding is prioritized and spent, and/or update program status.

The Port of Long Beach Community Grants Program is supported by an Advisory Committee comprised of local Long Beach residents that are appointed by the Mayor. Additionally, public input on spending priorities is received through community surveys, community workshops, and additional meetings with interested parties. Funds allocated through this program are distributed through a competitive process, adhere to state law, are prioritized toward the communities most directly impacted by port-related operations, and fall within the categories of community health, facility improvements, and community infrastructure. The Board of Harbor Commissioners makes the final decision on all funding allocations at their publicly noticed meetings.

The Harbor Community Benefit Foundation (HCBF) is a 501(c)3 nonprofit incorporated in 2011 that works with the community to manage and administer Port of Los Angeles mitigation funds. These Port funds currently consist of the Port Community Mitigation Trust Fund and the Air Quality Mitigation Fund, which include projects to demonstrate and implement emission reduction technologies to reduce air emissions in the San Pedro Bay area.

As part of the United States Environmental Protection Agency (U.S. EPA) Clean Ports Grant, HCBF is also now administering an additional \$50 million for community-led projects through 2028. With these grant funds, HCBF will conduct extensive public engagement for the whole project, manage a citizen-driven grant program, within U.S. EPA's guidelines, and develop and implement a workforce development program.

The Ports will continue to offer community benefit funding and assess potential programs or enhancements to build upon these efforts. These financial commitments are over and above other Port spending on public access improvement projects, sponsorships for local community events and organizations, support for local education programs, scholarships, and other investments that benefit the local communities.

Ports Response to Comment 7-5

Both Ports have established incentive programs based on the International Association of Ports and Harbors (IAPH) Environmental Ship Index (ESI). The Ports' ship incentive programs aim to encourage the deployment of the cleanest vessels to the San Pedro Bay. The Ports propose to update their respective ESI programs as part of the proposed Addendum to the Cooperative Agreement within one year of the release of an updated "ESI 2.0" program by the IAPH. A public process will be conducted to inform the development of the structure of the updated ESI program, including eligibility, funding levels, and reporting frequency, after approval of the proposed Addendum to the Cooperative Agreement. More information about the IAPH's ESI program can be found here: <https://environmentalshipindex.org/>

The Ports, as identified in the Preamble, commit outside of the Cooperative Agreement to preparing a fuel study to assess current alternative fuel trends in international shipping. The Ports will engage with stakeholders to identify opportunities to advance this initiative.

Ports Response to Comment 7-6

Analysis of charging infrastructure needs will be conducted in alignment with the terms of the previously adopted Cooperative Agreement.

As the Ports do not own, operate or control drayage trucks, the Ports propose to develop zero-emission truck utilization incentive programs as part of the proposed Addendum to the Cooperative Agreement, with a goal of Board of Harbor Commissioners' consideration by February 28, 2027. The Ports will engage with stakeholders to inform the development of the structure of the program, including funding amounts, and to identify opportunities to advance this initiative.

Ports Response to Comment 7-7

The Alameda Corridor is managed through the Alameda Corridor Transportation Authority (ACTA), which is not a party to the Cooperative Agreement. Consequently, recommendations for ACTA policy changes are beyond the scope of the Cooperative Agreement.

The Ports will address zero-emission locomotive infrastructure needs on port-managed property in the Phase 2 infrastructure plans as identified in the Cooperative Agreement.

Ports Response to Comment 7-8

Both Ports have received significant grant funding for tenant owned cargo-handling equipment (CHE) and harbor craft (HC) that these entities are utilizing for the purchase or upgrade of equipment, with over 600 pieces of new ZE CHE and 20 cleaner HC anticipated to be deployed by these tenants over the next three years. Information about ongoing and upcoming activities by the Ports related to deploying cleaner harbor craft was provided at the April 14, 2026 Clean Air Action Plan Implementation Advisory Group meeting. Presentation materials can be found on the Ports' joint Clean Air Action Plan website (<https://cleanairactionplan.org/about-the-plan/stakeholder-advisory-group/>). Additionally, South Coast AQMD is also managing and allocating grant funding for these source categories. These grant projects include significant private investment as well as Port-committed funding as part of the cost share. The Ports will each document the amount of ZE equipment in their fleets through their annual emissions inventory (EI).

The transition of tenant-owned CHE and HC to ZE requires collaboration with many stakeholders. The infrastructure planning as defined in the Cooperative Agreement is the first step in determining a viable path forward.

Staff Response to Comment 7-9

Staff is cognizant of the impacts of port emissions on regional air quality and public health for both port-adjacent communities and residents throughout the region. Infrastructure planning and implementation is the critical first step needed before identifying broader emission reduction and equipment deployment strategies. There are also ongoing activities with the interest of facilitating future emission reductions from port-related operations being carried out collaboratively outside of the Cooperative Agreement among the parties to the agreement or individually by each party.



May 5, 2026

Mayor Karen Bass
200 N. Spring St.
Los Angeles, California 90012

Mayor Rex Richardson
411 W. Ocean Boulevard
Long Beach, California 90802

Chair Michael Cacciotti and Members of the Governing Board
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Subject: CAAP-Plus Measures Recommendations

Thank you for the opportunity to provide these comments on behalf of the members of the Pacific Merchant Shipping Association (PMSA), the ocean carriers, marine terminal operators, harbor craft operators, and other maritime interests operating in the ports of Long Beach and Los Angeles. Representing these companies, PMSA has a significant stake in a positive and productive outcome of the negotiation of the Cooperative Agreement and the development of the "CAAP-Plus Measures". PMSA would also like to applaud the Port of Long Beach (POLB), the Port of Los Angeles (POLA), and the South Coast Air Quality Management District (SCAQMD) for implementing an inclusive, deliberative, and serious process for developing the CAAP-Plus Measures.

We respectfully submit for your consideration the following comments and recommendations on ways to strengthen the feasibility and efficacy of the proposed measures, elevate these deliberations, and ultimately accelerate the transition to a zero-emissions future.

Competitiveness, Growth, and Feasibility Must Remain Front and Center

As you are all aware, the ultimate source of the billions of dollars in new capital that will be spent on compliance with CAAP Plus measures and the financing of the infrastructure requirements that will be derivative of the Cooperative Agreement will be the Ports' customers and tenants. These industrial investments and expenses will only be viable and feasible, especially on the timetables that stakeholders expect to be met ahead of any other gateways in

North America, if we can ensure that our San Pedro Bay gateway remains competitive and grows.

The Port of Los Angeles and the Port of Long Beach, as landlord ports, will need to invest more capital in the infrastructure that support their cargo operations under the Cooperative Agreement and CAAP Plus measures. This will force the ports and their customers to focus their investments and engage in long-term commitments that may impose new and different priorities on the marketplace than what would otherwise occur. And, because none of the proposals will be successful if not economically feasible, as a result preservation and growth of cargo volumes should be a north star for everyone in these conversations. The ports, marine terminals, and partner ocean carriers, motor carriers, and rail carriers are going to need to find commercial solutions to these challenges. This means that there need to be realistic conversations about imposing limits on project cost, creating volume growth mileposts, and protecting the bottom line of ports and their customers.

We have already seen several calls for new fees and taxes to be imposed on this process and to extract cash from the ports, port customers, and port tenants. This type of approach is anathema to competitiveness, blunts growth, and will be counterproductive to leveraging the private and public financing and underwriting that will be necessary to ensure the success of this program. We cannot stress enough that the solutions to the problems of investment, infrastructure finance, and generation of capital need to originate from and be accountable to competitive, market-based, and commercially-driven platforms that harness demand and throughput. If the CAAP Plus measures simply extract cash from the system, create higher overhead costs, and substitute regulatory goals for economic efficiency, they will fail.

Socioeconomic Factors are the Most Significant Determinants of Health

As you know, socioeconomic status is the most important determinant of health¹. Economic factors can make up 40% of health outcomes while physical environmental factors only determine 10% of health outcomes². Given the San Pedro Bay Ports' importance to the economic vitality of Southern California and the nation, coupled with the fact that the ports are responsible for 226,000 direct, indirect, and induced jobs locally and 3.5 million jobs nationally,³ it is critical that every measure considered as part of the CAAP-Plus Measures be evaluated for their overall, positive socioeconomic impacts. In addition, the twin ports have lost significant

¹ <https://pmc.ncbi.nlm.nih.gov/articles/PMC10341459/>

² <https://www.sciencedirect.com/science/article/abs/pii/S0749379715005140>

³ <https://www.pmsaship.com/maritime-insights-blog/economic-importance-of-trade-amp-the-ports-to-southern-california>

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market share since 2006. By one estimate, the region has 45,400 fewer jobs and billions less in economic activity as a result of loss of market share to-date.⁴ If CAAP Plus measures directly contribute to further losses of cargo, then the real impacts of these diversions could result in negative health outcomes that dwarf the actual health benefits intended to be achieved by the CAAP. If these measures are framed in terms of health outcomes, and the predicate for the entire program is regional air quality and regional compliance, PMSA requests that the SCAQMD and the ports jointly consider the net benefits of these programs, after accounting for socioeconomic impacts, to public health throughout the entire South Coast Air Basin.

Comment
8-2, Cont'd

SCAQMD and the Ports Must Set Targets for Utility Action

Throughout the development of the Cooperative Agreement, it has been clear that the single most important critical variable in the transition timeline for a zero-emissions future is the question of when the necessary supporting utility infrastructure will be in place. As a result, PMSA proposes a Facilitating Measure that would require SCAQMD, POLA, and POLB to solicit timelines from the utilities for detailed targets for the utilities' actions which are identified as necessary for the zero-emissions transition, with regular updates. While the Cooperative Agreement requires infrastructure plans, those will be reasonably centered on port actions that are important, but not the development of utility infrastructure. Through this proposed Facilitating Measure, the ports and the District can share with us and the public where the utilities actually are in delivering the needed infrastructure.

Comment
8-3

Utilities Must Ensure That Service Will Serve the Next Generation

Power availability and reliability are critical at the ports now more than ever. Power quality and reliability issues pose both safety and productivity challenges. For example, crane operators have been jostled in the cab due to loss of power from the grid, resulting in measurable OSHA reportable injuries. Productivity is also impacted, as restarting equipment can take several hours and require significant manpower. Additionally, when operations are interrupted, trucks awaiting service can back up on the terminal and on the road in the local community, with idling emissions being generated.

Comment
8-4

To that end, the District and SCAQMD should adopt a Facilitating Measure that ensures that the utilities specify in their targets that the plans are in place to provide high quality, reliable power in a timely manner.

⁴ <https://centerforjobs.org/ca/special-reports/economic-importance-of-trade-and-the-ports-to-southern-california-phase-i-report-baseline-economic-and-fiscal-impacts#key-jobs-and-economic-findings>

In support of that, the utilities must ensure the provision of a high level of power quality and reliability. That power must also be supported by new modern power meters, which are essential at each terminal given the fast-rising use of electricity for cargo handling equipment. Modern meters, in turn, must be supported by SCADA systems that will be necessary to be able to assess key usage information.

Comment
8-4, Cont'd

Finally, as the zero-emission transition continues to be catalyzed by regulation and grants, assurance that the port terminals will be able to operate at their growing capacity is necessary. The utilities are a critical player in this transition who should be providing timely and actionable plans to meet targets per the SCAQMD Cooperative Agreement and the EPA Clean Ports Program concluding on December 31st, 2028.

During an Affordability Crisis, SCAQMD and the Ports Must Not Establish Policies that Increase Costs in the Nation's Most Expensive Gateway

Across the country—and particularly in this state—residents are experiencing an affordability crisis. Years of poor policy decisions have exacerbated the cost of living. It is important that this process does not contribute to that. All policies being considered as a CAAP-Plus Measure should be evaluated to ensure that the proposal does not cumulatively make the current affordability crisis worse. To be economically feasible and politically tenable over the course of the Cooperative Agreement, the CAAP-Plus Measures cannot appear to make the cost of living in Southern California worse and should be implemented in a manner which is sensitive to cost impacts.

Comment
8-5

Incentives to Buy Down the Cost of Alternative Fuels, including Electricity and Hydrogen

As a result of policies, California has the highest energy costs in the nation. Whether it is electricity or conventional fuels, California is unsurpassed for unaffordable energy that hampers the transition to new technologies. A critical step that the District and the ports could take would be to provide an incentive that would buy down the price of electricity, green hydrogen, green methanol, and green liquefied natural gas, and potentially other fuels. Such an incentive could bring several benefits. First, since it is a use-based incentive, the benefit accrues with every dollar spent. Second, a fuel incentive would encourage equipment operators to prioritize the use of clean technologies over conventional technologies in mixed fleets. Finally, there are existing situations where green fuels could be used in dual fuel technologies but are not, particularly as a marine fuel.

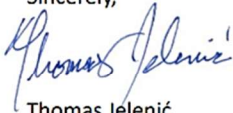
Comment
8-6

SCAQMD and the Ports Should Engage the State Energy Commission on Long-Term Planning for the Infrastructure to Support the Production, Distribution, and Delivery of Alternative Maritime Fuels for Vessels

The global container fleet already has 400 dual-fuel ships in operation and another 700 on order. With \$150 billion in investment, nearly 75% of all new vessel orders are for vessels capable of running on alternative fuels.⁵ However well-equipped these ships are, it is equally true that vessel emissions will not be reduced in Southern California without a steady supply of alternative fuels being produced and distributed on the US West Coast. As a result, PMSA proposes a Facilitating Measure that would require SCAQMD, POLA, and POLB to work with the state Energy Commission to develop comprehensive plans that support the development of fuel-production and distribution infrastructure, which must include both storage infrastructure and distribution facilities such as fueling barges. Through this proposed Facilitating Measure, the Ports and the District can share with us and the public where and when these fuels are going to be made available for use by ocean-going vessels.

PMSA looks forward to continuing to work through this process and the successful development of CAAP-Plus Measures for presentation to the SCAQMD Governing Board in June.

Sincerely,



Thomas Jelenić
Vice President

cc: Port of Los Angeles Board of Harbor Commissioners
Port of Long Beach Board of Harbor Commissioners
Gene Seroka, Port of Los Angeles
Noel Hacegaba, Port of Long Beach
Wayne Nastri, South Coast Air Quality Management District

⁵ <https://www.worldshipping.org/dual-fuel-fleet-dashboard>

Comment
8-7

Responses to Written Comment #8:

Ports Response to Comment 8-1

For solutions to be successful, the Ports agree that consideration of the costs, the ability of the port industry and its customers to absorb those costs, and the competitive position of the Ports, is

critical. The Ports will work closely with all interested and affected parties, including directly with industry, when preparing the infrastructure plans required under the Cooperative Agreement, and throughout the development of the CAAP Plus Measures, to ensure that all concerns are considered and addressed. The proposed CAAP Plus Measures are focused on incentive-based strategies to encourage emission reductions. These incentives aim to address, in part, the higher cost for adopting and using cleaner technologies on an accelerated schedule. The Ports have also aggressively pursued grant funding opportunities, and supported tenants and operators in their pursuit of grants, to help offset the often higher costs of zero-emission equipment and infrastructure.

Staff Response to Comment 8-2

As was the case with the Cooperative Agreement, a socioeconomic impact assessment is not statutorily required for the proposed Addendum to the Cooperative Agreement and has not been prepared. Both the Cooperative Agreement and the proposed Addendum to the Cooperative Agreement were crafted to implement: 1) Control Measure MOB-01 which was previously adopted in the 2016 AQMP; and 2) Control Measures MOB-01 and MOB-15 which were previously adopted in the 2022 AQMP. The health benefits and socioeconomic impacts, including job impacts, of implementing these and all the other control measures in both AQMPs are provided in each AQMP's Socioeconomic Report (available at: <https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan/socioeconomic-analysis>).

It is important to keep in mind that, based on cargo statistics published by the Ports, the combined cargo throughput at the San Pedro Bay Ports has increased from 15.8 million twenty-foot-equivalent (TEU) containers in 2006 to over 20.1 million TEU containers in 2025, representing a growth rate of approximately 28 percent over the past two decades. (Ports' annual cargo throughout statistics are available at: <https://polb.com/business/port-statistics/#yearly-teus> and <https://portoflosangeles.org/business/statistics/container-statistics>.) The 45,400 fewer jobs cited in the comment does not represent actual job losses, but fewer jobs gained when compared to the simulated scenario where port cargo growth was assumed to have far exceeded the actual growth of 28 percent and not considering growth constraints such as physical space and cargo-handling capacity at the San Pedro Bay Ports. Most importantly, the cited job impacts in this simulated scenario were found for a period preceding the Cooperative Agreement and the proposed Addendum to the Cooperative Agreement. It is also important to keep in mind that the proposed Addendum to the Cooperative Agreement will require the Ports to develop or amend port incentives to encourage the deployment of zero-emission trucks and clean vessels and provide funding to support off-port infrastructure projects for zero-emission trucks, all of which are designed to lower operational costs for both vehicles and infrastructure.

Ports Response to Comment 8-3

The utilities are an important partner in the transition to zero-emission technologies at the ports; however, they are not a party to the Cooperative Agreement. Through the infrastructure planning process outlined in the Cooperative Agreement, the Ports will work with their respective utilities to identify their required actions and schedules to provide the necessary utility infrastructure upgrades. The roles and responsibilities for all parties involved in the infrastructure development, including the utilities, will be identified in the infrastructure plans. Milestones that are the responsibility of the utilities will be identified in the plans. Further, during the implementation

phase, the Ports will annually report on infrastructure development, as defined in the Cooperative Agreement.

Ports Response to Comment 8-4

The utilities are an important partner in the transition to zero-emission technologies at the ports; however, they are not a party to the Cooperative Agreement. Through the infrastructure planning process outlined in the Cooperative Agreement, the Ports will continue to work with the tenants and their respective utilities to identify the utility infrastructure upgrades required to ensure adequate, reliable power is available to support zero-emission operations.

Ports Response to Comment 8-5

The Ports recognize their role as an important economic engine for the region and beyond. Plans and strategies developed under this Cooperative Agreement will be designed, through the public process, to reduce emissions, reduce community impacts, maintain good jobs, and continue to support economic vitality.

Ports Response to Comment 8-6

The proposed CAAP Plus Measures include incentive programs that are aimed to address, in part, the increased cost for utilization of cleaner technologies. The specific details of these programs will be developed through a public process.

Joint Response to Comment 8-7

The California Energy Commission is an important partner in the transition to zero-emission technologies at the ports; however, it is not a party to the Cooperative Agreement. The Ports do agree that a coordinated state-wide or national approach to clean fuel production and distribution will be needed to support the availability of clean marine fuels at a cost-effective price. As referenced in the Preamble to the Addendum and as an activity to be conducted outside of the Cooperative Agreement, the Ports are currently developing a Clean Marine Fuel Assessment to evaluate clean marine fuel supply and infrastructure gaps. These factors will also be considered within the Phase 3 infrastructure plan for ocean-going vessels, to be developed under the Cooperative Agreement.

Additionally, Phase 3 of the ZE Plan requires each Port to specify a planning target for ocean-going vessels and to analyze and plan for on-port fueling infrastructure required to meet the planning target. The ZE Plans will also include the anticipated timeline of infrastructure projects becoming operational as well as the project location. This information will be shared with the public in the final ZE Plans and subsequent annual reports will be provided with a status update of each project including whether project milestones were met and the reason(s), entity(s) involved, and mitigative steps taken if there is any delay in meeting a milestone, changes in timeline, and progress made.

Since conventionally-fueled OGVs do not need to refuel at every port of call and fuel price arbitrage can drive the vessels' bunkering decisions, the San Pedro Bay Ports were estimated to have supplied just 1% of global bunker fuel in 2021, according to the Port of Long Beach Clean Marine Fuels White Paper (available at: <https://polb.com/download/802/clean-marine-fuels/21342/clean-marine-fuels-white-paper.pdf>). More information on alternative marine fuel demand from industry will greatly assist in developing Phase 3 of the ZE Plans.

Over the past decade, South Coast AQMD has been engaging with the California Energy Commission (CEC), the California Public Utilities Commission (CPUC), and other partner agencies, related to zero-emission infrastructure needs and challenges. We will continue to engage with relevant agencies on the transition to cleaner and zero-emission energy that will result in clean air benefits.



May 12, 2024

Chair Cacciotti and Members of the Governing Board
South Coast Air Quality Management District
21865 Copley Dr.
Diamond Bar, CA 91765

RE: CAAP Plus Measures Recommendations for Ports Cooperative Agreement

Dear Chair Cacciotti and Members of the South Coast Air Quality Management Governing Board,

The San Pedro Bay Ports remain a major source of pollution and one of the largest single-fixed sources of smog-forming emission in California. To protect port communities and port workers' health, Pacific Environment offers the following recommendations on the Clean Air Action Plan Plus (CAAP) measures for inclusion in the Ports' Cooperative Agreement with the South Coast Air Quality Management District. These recommendations present an important opportunity to strengthen existing programs, accelerate emissions reductions, and advance zero-emission port operations in the San Pedro Bay, while delivering clean air and public health benefits to impacted communities.

Pacific Environment urges the Ports and the South Coast AQMD to adopt the following measures:

Prioritize Operational Incentives, Including Green Docking Incentives.

- Accelerate the adoption of limited, early-stage green fuels by granting operational priority—such as first-in-line berthing—to vessels that demonstrate near-zero or zero lifecycle greenhouse gas emissions. This operational incentive may directly address key priorities for ship operators, including schedule reliability, reduced waiting times, lower fuel consumption, and minimized opportunity costs.

Comment
9-1

- Encourage deployment of zero- and near-zero lifecycle emission fuels, such as green methanol, green ammonia, and green hydrogen, while ending incentives that prolongs reliance on fossil LNG.

Comment
9-1, Cont'd

Strengthen and Expand Financial Incentives and Program Investments

- Include a commitment to allocate at least \$10 million toward enhancements to the Environmental Ship Index (ESI) "2.0" Program. These updates should account for the cost differential between conventional bunker fuels and green fuels and ensure that dual-fuel vessels are incentivized to call at the ports.
- Redirect any unused funds to the Technology Advancement Program for ocean-going vessels, harbor craft, and other zero-emission projects at the Ports.

Comment
9-2

Implement Progressive Port Fees to Accelerate Harbor Craft Transition

- Adopt an escalating fee structure for higher-emitting vessels (i.e. Tier 0-II engines), building models such as the Clean Truck Fund. Revenues generated from these fees should be reinvested into clean technologies, electrification, and community air quality programs.
- Funds could support enhancements to ESI 2.0, incentives and rebates for vessels utilizing Tier III or cleaner technologies—including wind-assist propulsion systems—and other port electrification initiatives such as shore-power infrastructure.
- Increase fees over time with clear milestone years to encourage early retrofits, repowers, and fleet replacement. Additional measures could include operational restrictions or targeted fees for high-polluting repeat callers. At least a portion of revenues should support community air quality mitigation programs in impacted port communities.

Comment
9-3

Strengthen Green Shipping Corridor and Operational Measures

- Use the Cooperative Agreement to further leverage and strengthen existing green shipping corridor partnerships. This could involve establishing minimum engine performance standards (Tier III or better), accelerating deployment of emissions-reduction technologies such as wind-assisted propulsion, and advancing more ambitious targets than those currently set by the International Maritime Organization targets.

Comment
9-4

- Operational incentives—including port fee reductions, priority berthing, and other preferential measures—should be used to encourage participation and accelerate compliance along these corridors.
- The Ports and the South Coast AQMD should also coordinate closely with the CARB as Vessel Speed Reduction enhancements are developed, particularly in light of CARB's ongoing research with UC Riverside on Tier III OGV main engine emissions at low loads. Such coordination can help avoid duplication of effort and ensure that operational measures effectively reduce excess emissions impacting frontline communities.

Comment
9-5

Comment
9-6

To protect port communities and port workers, Pacific Environment supports policies and incentives to accelerate emission reductions from ocean-going vessels (OGV's) and harbor crafts. The San Pedro Bay Ports play a critical role in this transition by providing the green marine infrastructure needed for zero-emission shipping, incentivizing the maritime industry to deploy their cleanest fleets here, and coordinating the diverse stakeholders needed to support this transition, including labor and environmental justice. Given the South Coast AQMD's federal and state mandates to bring the region into compliance with air quality standards, the agencies involved are uniquely positioned to help drive and enforce these efforts.

Comment
9-7

Thank you for the opportunity to provide these recommendations. We appreciate your consideration and welcome the opportunity to discuss these ideas further.

Sincerely,

Davina Hurt

Climate Policy Director
Pacific Environment

Cristhian Tapia-Delgado

Climate Campaigner, Southern California
Pacific Environment

Reemah Bzeih

State Climate Manager
Pacific Environment

1012 Torney Ave, San Francisco, CA 94129 | (+1) 415-399-8850 | pacificenvironment.org

cc:

Los Angeles Mayor Bass

Long Beach Mayor Richardson

Los Angeles Board of Harbor Commissioners

Long Beach Board of Harbor Commissioners

Heather Tomley, Managing Director of Planning & Environmental Affairs, Port of Long Beach

Lisa Wunder, Director of Environmental Management, Port of Los Angeles

Ian MacMillan, Assistant Deputy Executive Officer, South Coast Air Quality Management District

Responses to Written Comment #9:

Ports Response to Comment 9-1

In alignment with work on green shipping corridors (GSC), the Ports are pursuing strategies to support the transition to use of cleaner marine fuels. The transition to green fuels for ships owned and operated by international shipping lines will require close collaboration with supply chain partners, including the development of incentive programs to support the transition.

As identified in the Preamble to the proposed Addendum to the Cooperative Agreement, the Ports commit outside of the Cooperative Agreement to conducting a Clean Marine Fuel Assessment. Additionally, the Ports will issue a Request for Proposals (RFP) for a methanol bunkering pilot project in the San Pedro Bay.

The proposed Addendum to the Cooperative Agreement contains a measure to update the incentive for alternative fuel use as part of the ESI program (please refer to Ports Response to Comment 7-5). The Ports will engage with stakeholders, through a public process, to identify opportunities to advance this initiative.

Ports Response to Comment 9-2

Please refer to Ports Response to Comment 7-5.

Ports Response to Comment 9-3

Both Ports are implementing several large grant projects to facilitate the transition and upgrade of harbor craft (HC) using funding secured through grants. There are currently \$33.7 million in active harbor craft projects for zero-emission capable tugboats and excursion vessels, with an additional \$28.7 million awarded for vessel upgrades to the cleanest diesel or zero-emission capability. A second round of approximately \$30 million in pass-through grant funding secured by Port of Long Beach for additional clean and zero-emission harbor craft operating in San Pedro Bay is expected to be awarded in mid-2026. During the preparation of the HC Infrastructure Plan to be conducted in alignment with the terms of the previously adopted Cooperative Agreement, Port staff will review the current makeup of their respective HC fleets and consider various strategies to encourage transition to cleaner HC.

The Ports will engage with stakeholders to identify opportunities to advance this initiative.

Ports Response to Comment 9-4

The Ports are leading several GSCs with partner ports in Asia and other stakeholders. Opportunities to work together with our partners to advance progress toward achieving our decarbonization goals will continue to be developed and reported through the GSC framework.

GSC progress reports are prepared annually for Shanghai and Singapore corridors (available at: <https://www.c40.org/what-we-do/scaling-up-climate-action/ports-and-shipping/green-shipping-corridors/> and <https://www.c40.org/news/los-angeles-long-beach-singapore-green-and-digital-shipping-corridor-unveils-inaugural-progress-report-showcasing-milestones-and-vision-ahead/>).

Ports Response to Comment 9-5

Please refer to Ports Response to Comment 9-4.

Joint Response to Comment 9-6

In the Preamble to the draft Addendum to the Cooperative Agreement, the Ports commit outside of the Cooperative Agreement to conducting a technical study on vessel emissions at low-speed operations within the term of the Agreement. CARB is not a party to the Cooperative Agreement; however, the Ports anticipate coordinating with CARB and third-party technical experts, which may include University of California, Riverside, in preparation of this study.

Additionally, since 2018-2019 and as part of South Coast AQMD's international partnerships building initiative to reduce maritime emissions, staff has engaged with relevant stakeholders including but not limited to CARB and conducted sponsored and joint research associated with real-world OGV emissions, particularly related to NOx emitted during low load operations. Our efforts have also contributed to technical discussions at the IMO level. Staff continues to regularly engage with CARB staff to stay informed of and coordinate, as appropriate, on our respective work and activities related to ocean-going vessels.

Joint Response to Comment 9-7

Ports and South Coast AQMD staff thank you for your comments.

Additionally, South Coast AQMD staff will continue to undertake necessary efforts to study and verify regional air quality impacts associated with the anticipated transition to zero- and low-carbon marine fuels.

Written Comment #10 from Utility Workers Union of America Local 483

From: Ernie Shaw [REDACTED]
Sent: Thursday, May 14, 2026 11:46 PM
To: Ports Comments <ports_comments@aqmd.gov>
Subject: [EXTERNAL] Re: Comments on Proposed Measures to Complement the Cooperative Agreement-Ernest Shaw, UWUA Local 483

Hello and Good Evening,

My name is Ernest Shaw, President of UWUA Local 483. I am also speaking from a field and workforce perspective as someone who works in Transmission and Storage at Southern California Gas Company, around the kind of real world energy infrastructure these conversations ultimately depend on. Local 483 has supported broader hydrogen development in California, including ARCHES related efforts, because we believe the right projects can help reduce emissions and create durable work, but only if infrastructure, safety, workforce readiness, and real operating conditions are treated honestly from the start.

I appreciate the effort to move this discussion into more concrete measures. Focusing on actual truck utilization and on regional off-port charging and fueling infrastructure is the right kind of conversation. But my point is simple: do not let policy outrun infrastructure, logistics, workforce readiness, safety, maintenance, emergency response, or real operating conditions in the field.

In heavy duty port operations, success depends on building the full operating system at the same time as the equipment transition. That means not just targets and incentives, but operational reliability, cycle time, congestion, trained personnel, safe maintenance practices, and confidence that fuel or charging will actually be there when the equipment is.

The Port of Long Beach's own Clean Marine Fuels white paper backs up that practical approach. It identifies multiple relevant clean marine fuel pathways, including green hydrogen, green methanol, green ammonia, renewable liquefied natural gas, and biofuels. It also lays out the real barriers plainly: availability, cost, infrastructure, permitting, safety, technology readiness, and the need for labor and community support, and it recommends fueling infrastructure development, technology demonstrations, streamlined permitting, grants, and agency support. (Port of Long Beach, *Clean Marine Fuels White Paper* (Dec. 2024), pp. 2, 8–13, 17–18.)

That is why the off-port measure matters. It should remain broad enough to support practical heavy duty infrastructure needs and should not quietly narrow "charging and fueling" into a one-size-fits-all buildout before the region has solved the real world issues of reliability, utilization, safety, maintenance, and fuel or power availability. If the region is serious about long-term zero-emission freight and port operations, it should keep practical fueling pathways open long enough to let real operating conditions, infrastructure readiness, and market demand sort out what can truly scale.

This is not an argument for delay. It is an argument for discipline. Build the real system first, keep the practical lanes open, and do not box the region into a narrow infrastructure path too early.

Thank you for the opportunity to comment.

Ernest Shaw
President, UWUA Local 483 Transmissions and Storage

Comment
10-1

Comment
10-2

Joint Responses to Written Comment #10:

Joint Response to Comment 10-1

The measures proposed and outlined in the proposed Addendum to the Cooperative Agreement consist of two voluntary incentive programs and one infrastructure funding program. The Ports will conduct a public process to solicit stakeholder input on these measures after the proposed Addendum is approved. Staff agrees that careful consideration and planning should be prioritized when developing port charging and fueling infrastructure. Such considerations are required in the current Cooperative Agreement when setting the planning targets and developing the ZE Plans. During development of the ZE Plans, Ports will also release the draft plans for public review, where input and suggestions from stakeholders and members of the public may be presented to the Ports for consideration. For more details, please see: [https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/ports-cooperative-agreement_final-approved-\(signed\).pdf](https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/ports-cooperative-agreement_final-approved-(signed).pdf).

Joint Response to Comment 10-2

The parties to the Agreement agree that this is an important consideration in the development of regional charging and alternative fuel infrastructure. The parties to the Agreement will conduct a public process to seek input on this measure after the proposed Addendum is approved.

Infrastructure planning is a critical first step needed before identifying future emission reduction and equipment deployment strategies. The current agreement requires Ports consider and justify the factors that were taken into account when setting their planning targets. Ports must also work with tenants and operators to address issues during plan development including infrastructure plan feasibility and impacts on workforce needs. During development of the ZE Plans, Ports will also release the draft plans for public review, where input and suggestions from stakeholders and members of the public may be presented to the Ports for consideration. For more details, please see: [https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/ports-cooperative-agreement_final-approved-\(signed\).pdf](https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/ports-cooperative-agreement_final-approved-(signed).pdf).



May 28, 2026

Chair Michael Cacciotti and Members of the Governing Board
South Coast Air Quality Management District (South Coast AQMD)
21865 Copley Drive
Diamond Bar, CA 91765

Delivered electronically: ports_comments@aqmd.gov

RE: Comments on Draft Proposed Addendum to Cooperative Agreement

Dear South Coast Air Quality Management District Governing Board and Staff,

California Environmental Voters (EnviroVoters) appreciates the continued work to develop measures under the Clean Air Action Plan Plus (CAAP+) process addressing emissions associated with port activity. We recognize the significant public health stakes involved and share concerns raised by community partners across the South Coast Air Basin regarding the urgent need to reduce pollution impacting portside communities and Inland Empire residents who experience downstream effects of port pollution. Because these communities experience some of the greatest exposure to freight-related emissions, meaningful and intentional engagement is essential to ensuring policies reflect on the ground conditions and lead to effective solutions.

EnviroVoters appreciates that the proposed addendum to the Cooperative Agreement incorporates additional public process requirements, program reporting, and implementation provisions related to Ports Emissions Reduction Programs and Regional Off-Port Truck Charging and Fueling Infrastructure. The inclusion of draft program review periods, annual reporting requirements, and public meetings reflects movement toward greater transparency and accountability. However, we believe several areas within the proposed addendum require strengthening to ensure these measures deliver significant and lasting outcomes for impacted communities.

EnviroVoters supports the broader goals reflected in recent coalition communications calling for stronger action to address port-related emissions and rebuild public trust in this process. We submit this letter to highlight several core priorities we believe are essential to ensuring the CAAP+ measures move beyond procedural requirements and result in measurable air quality and public health improvements.

First, strengthening community engagement must remain a central component of this process.

We appreciate that the proposed addendum includes public review requirements under Attachment A2, including draft program review periods and a requirement for one public meeting during program development. However, we remain concerned that these provisions

Comment
11-1

Comment
11-2



establish minimum procedural requirements rather than ensuring meaningful and accessible engagement with impacted communities.

The proposed addendum states that Ports will conduct one public meeting during the review process and notes that this meeting may occur in conjunction with regularly scheduled CAAP Stakeholder Advisory Group meetings. While these meetings can provide useful updates, they may not sufficiently reach residents and communities most impacted by freight and port pollution. Community members have previously expressed difficulty tracking meetings, updates, and opportunities for participation when outreach relies primarily on existing agency communication channels and listservs.

We encourage South Coast AQMD to expand outreach strategies beyond minimum requirements and partner directly with trusted community structures, including Environmental Justice Advisory Groups, AB 617 Community Air Protection groups, and local organizations to co-host engagement opportunities. Inclusive outreach should also ensure Inland Empire communities, which experience downstream impacts associated with freight movement and warehouse activity, are meaningfully involved in engagement and decision-making, including through in-person engagement opportunities in the Inland Empire.

Stronger community engagement is critical not only for equity reasons, but also for effective implementation. When impacted residents participate early and consistently in the process, implementation challenges can be identified sooner, policies can become more durable, and public trust in agency decisions improves.

Second, transparency and accountability must be more clearly embedded within implementation of the proposed measures.

We appreciate that the addendum includes reporting and evaluation requirements, including annual program reporting and future Program Evaluation Reports. However, we remain concerned that several provisions focus heavily on completion of procedural steps rather than requiring demonstrated emissions outcomes.

Under the Enhanced Clean Ship Incentive Program and Zero Emission Truck Utilization Incentive Program, participation goals are described as being based on available information and acknowledge that participation levels are "beyond the control of the Ports." While we understand that market conditions and operational considerations create limitations, communities still need clarity regarding how success will ultimately be measured and what accountability mechanisms will exist if participation goals are not met.

We encourage South Coast AQMD to establish publicly accessible emissions reduction targets, progress reporting, and measurable performance indicators tied directly to implementation outcomes. Public-facing tracking mechanisms should allow communities, policymakers, and stakeholders to understand whether implementation is producing real air quality improvements rather than solely documenting completed actions.

Comment
11-2, Cont'd

Comment
11-3



Greater transparency will also help rebuild confidence in a process where many community members previously expressed concerns that decisions and negotiations occurred without sufficient public visibility.

Third, program success should be grounded in measurable public health and emissions outcomes.

Incentive programs and infrastructure investments can play an important role in reducing emissions when paired with clear targets, timelines, and accountability mechanisms. However, the proposed addendum primarily emphasizes program implementation and future evaluation processes without establishing clear quantifiable emissions reduction benchmarks.

The proposed addendum requires development of incentive programs intended to encourage participation and later evaluation reports assessing performance against identified metrics. However, there is limited discussion regarding specific emissions reduction expectations, utilization targets, or public health indicators that define successful implementation.

Strengthening clean air programs should focus not only on actions taken, but also on demonstrated outcomes, including increased zero-emission utilization, reductions in idling and vehicle miles traveled, and measurable reductions in pollution exposure in impacted communities.

EnviroVoters believes strong community partnership, clear transparency, and measurable emissions reductions are mutually reinforcing. When communities can participate meaningfully and see concrete progress, trust grows, implementation improves, and elected leaders are better positioned to support sustained clean air investments. Aligning community input with measurable outcomes will be critical to ensuring long-term regulatory success and delivering the public health benefits communities expect and deserve.

We look forward to continued collaboration with South Coast AQMD, community partners, and regional stakeholders to ensure CAAP+ measures deliver real and equitable air quality improvements for all communities impacted by port pollution.

Sincerely,

A handwritten signature in black ink, appearing to read "Ashley Jackson".

Ashley Jackson
Inland Empire Regional Organizer

Comment
11-3, Cont'd

Comment
11-4

Comment
11-5

Responses to Written Comment #11:

Staff Response to Comment 11-1

Please refer to Staff Response to Comment 7-9 in regard to the impacts of port emissions on regional air quality and public health for both port-adjacent communities and residents throughout the region.

Staff agrees with the importance of transparency and accountability. Public process and stakeholder engagement are central to the development and implementation of the proposed additional CAAP Plus measures and are memorialized in the Cooperative Agreement as well as in the Preamble to the proposed Addendum. Most importantly, public process is required and

enforceable per agreement terms and conditions for all CAAP Plus measures, including the zero-emission infrastructure plans measure and the proposed additional measures. Enforcement provisions are included as part of the Cooperative Agreement to ensure the Ports complete the required actions within their control, or else the Ports will incur financial penalties starting at \$50,000 per contract default.

Assuming the comment's reference to "recent coalition communications" refers to Comment Letter #7, the letter and responses to the comments raised in that letter can be found on pages F-14 through F-21.

Joint Response to Comment 11-2

As discussed in the preamble, the importance of stakeholder engagement was emphasized as a focus area during the development of the additional CAAP Plus Measures. During the development of the Cooperative Agreement and the proposed Addendum, all public meetings were conducted either virtually or in-person with a virtual option to enable stakeholder participation from all locations. The meetings and additional virtual office hours sessions were announced electronically through widely used social media platforms and multiple listservs that the public can opt in through the South Coast AQMD website. All meetings and office hours can also be found on the South Coast AQMD website, both under the searchable Calendar webpage (https://www.aqmd.gov/home/news-events/calendar_v2) and the dedicated webpage for the Cooperative Agreement (www.aqmd.gov/portsagreement), the latter of which was advertised at every meeting. Additional outreach to the AB 617 communities regarding engagement opportunities for the Cooperative Agreement and proposed Addendum was proactively carried out by South Coast AQMD's AB 617 Community Air Protection Program staff. As all public meetings were jointly held by the Ports and South Coast AQMD, the Ports also announced engagement opportunities through the Ports' own listservs.

Public process is enforceable, and financial penalties will follow if stakeholder engagement is not conducted by a Port as required during the implementation of the Cooperative Agreement. Separately, South Coast AQMD staff will regularly report to its Governing Board's Mobile Source Committee, as well as the full Board, on implementation status of the Cooperative Agreement.

The draft Addendum sets forth minimum requirements for public engagement. In addition to these minimum requirements, both Ports and South Coast AQMD offer numerous opportunities for stakeholder input, including AB 617 meetings, monthly meetings with environmental justice organizations in the manner and forum requested by these groups, and the CAAP Stakeholder Advisory Group meeting, among others. Meeting announcements and materials are posted on the Ports' respective websites, the Clean Air Action Plan website, and South Coast AQMD's website to ensure that all stakeholders have easy access to the information.

Staff Response to Comment 11-3

Regarding the establishment of emissions reduction targets for port-related sources, please refer to Ports Response to Comment 7-3.

With respect to tracking mechanisms for program implementation, the proposed Addendum requires the establishment of specific program tracking and reporting metrics, which can then be

used to evaluate clean air benefits. Following program implementation, the Ports are required to conduct program evaluation to assess whether the identified program objectives are met and provide justification for why certain subsequent actions are recommended. Program evaluation will be developed through a required public process, and the Port Boards may elect to initiate further changes to the programs based on the evaluation reports.

Separately, in approving the current Cooperative Agreement on November 7, 2025, the South Coast AQMD Governing Board directed staff to conduct and present to its Mobile Source Committee an emission reduction potential analysis after each Port board approves a zero-emission infrastructure plan. The analysis is not part of the Cooperative Agreement and will be conducted for informational purposes, i.e., to provide a ballpark range of potential emission reductions based on necessary assumptions, including the assumptions of unknown future zero-emission technology deployment and infrastructure utilization. Similarly, staff will analyze and present to the Mobile Source Committee potential emissions benefits of the incentive programs to be developed and implemented by the Ports under the proposed Addendum. The analysis will be conducted outside of the Cooperative Agreement and is anticipated to be based on program participation goals set by the Ports as part of the final program, along with additional necessary assumptions such as unknown future fleet size and participating fleet composition.

Staff Response to Comment 11-4

Please refer to Staff Response to Comment 11-3, as well as Staff Response to Comment 7-1 related to the focus of negotiation on near-terms actions within the Ports' control.

Staff Response to Comment 11-5

Staff appreciates the comment and the continued collaboration.



May 29, 2026

Mayor Karen Bass
City of Los Angeles
200 N. Spring St.
Los Angeles, California 90012

Mayor Rex Richardson
City of Long Beach
411 W. Ocean Boulevard
Long Beach, California 90802

Chair Michael Cacciotti and Members of the Governing Board
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Subject: Comments on the Proposed Addendum to the Cooperative Agreement

Thank you for the opportunity to provide these comments on behalf of the members of the Pacific Merchant Shipping Association (PMSA), the ocean carriers, marine terminal operators, harbor craft operators, and other maritime interests operating in the Ports of Long Beach and Los Angeles. Representing these companies, PMSA has a significant stake in a positive and productive outcome of the negotiation of the Cooperative Agreement and the development of the "CAAP-Plus Measures." PMSA would also like to applaud the Port of Long Beach (POLB), the Port of Los Angeles (POLA), and the South Coast Air Quality Management District (SCAQMD) for implementing an inclusive, deliberative, and serious process for developing the CAAP-Plus Measures. The proposed Addendum is an important step in completing this process.

PMSA respectfully submits for your consideration the following comments and recommendations on ways to strengthen the feasibility and efficacy of the proposed Addendum, elevate these deliberations, and ultimately accelerate the transition to a zero-emissions future. This letter builds on our letter of May 5th and responds to the specific language of the proposed Addendum. PMSA requests that the two letters be considered together with respect to the proposed Addendum.

The Ports Cannot Delegate Determination of Consistency with the Tidelands Trust

As you know, PMSA has a long and strong history of defending the Tidelands Trust doctrine against incursions and interpretations that seek to shift funding or responsibility from the Trust's grantee agencies. The Trust's requirements are no less important in the implementation of the Cooperative Agreement or this proposed Addendum.

Comment
12-1

As the proposed Addendum makes clear, the Ports of Los Angeles and Long Beach have sole responsibility to determine compliance with the Tidelands Trust (Attachment A3, Section A, Paragraph 5). However, the very next sentence implies that SCAQMD will determine compliance subject to a list of criteria prepared by the ports. Such an approach would effectively delegate Tidelands Trust compliance to SCAQMD staff and their interpretation of the list of criteria. This is unacceptable. The ports cannot delegate their authority through any mechanism to SCAQMD. The second sentence of Paragraph 5 must be deleted and only acknowledge that “[e]ach Port is solely responsible in determine that any funded project complies with the Tidelands Trust doctrine.”

Comment
12-1, Cont’d

\$4 Million in Funding to Administer a Handful of Infrastructure Projects is Excessive

Under the proposed addendum, the ports will contribute a combined \$40 million to support off-port infrastructure. This will likely result in between one or two dozen projects at most. Yet, the proposed addendum is proposing \$4 million in administrative funding for SCAQMD staff to be taken from the \$40 million. The \$4 million in administrative funding would cover one full-time person for 20 years. This is excessive, as there is no circumstance that would require that level of effort for overseeing a dozen or so projects. Worse, that amount of administrative funding will reduce the effective amount of funding available for real projects that would provide real benefits to the trucking community and local neighborhoods that otherwise will not be funded.

Comment
12-2

A truly just outcome would see SCAQMD fund the administrative expenses as an in-kind contribution to a project that would benefit the entire region from its \$225 million budget and 1,030 staff positions. If the ports are expected to contribute fund to support the one full-time person necessary for five years, the term of the agreement, this could be done in a manner which is more reasonable. To meet that potentially excessive level of \$1 million in funding, the current proposed funding must be cut by 75%. That would mean more funding for projects and reasonable and also be a more fiduciarily-responsible level of funding, and a clear nexus to the ports’ offsite funding. Further, since funding one person for 20 years cannot be justified in any circumstance for the proposed 5-year project that funding would also likely not be consistent with the ports’ Tidelands Trust responsibilities. Without a clear justification for the funding, there is no nexus for Tidelands funds to be transferred. Instances where similar transfers happened in the past were determined to violate Tidelands Trust requirements. For example, in 1996, the City of Los Angeles was successfully sued after it attempted to divert funding for non-port uses.

PMSA Supports and Recommends Improvements for an Enhanced Clean Ship Incentive Program

PMSA supports an Enhanced Clean Ship Incentive and the programs described in the preamble, including a Clean Marine Fuel Pilot Project and a study of low-speed vessel emissions. Incentives for the cleanest ships serve the needs of alternatively-fueled vessels and are important to increase visits.

Comment
12-3

In addition, an enhanced vessel incentive should consider ocean carriers participation in existing and future green shipping corridors (GSCs) that serve the San Pedro Bay ports. Participation in GSCs are a strong indication of organizational commitment to decarbonization and reducing emissions. Holistic actions that move an organization to greater commitments should be acknowledged in assessing whether individual vessels qualify for Clean Ship Incentives. Similarly, the incentive should also take into

account the entire scope of an ocean carrier's global deployment of clean ships. The greater number of clean vessels globally will translate into a greater likelihood of clean vessels being deployed to San Pedro Bay. Ocean carriers should be incentivized to grow their fleet of clean vessels.

Comment
12-3, Cont'd

The Proposed Addendum Fails to Include Targets for Utility Action

Throughout the development of the Cooperative Agreement, it has been clear that the single most important critical variable in the transition timeline for a zero-emissions future is the question of when the necessary supporting utility infrastructure will be in place. As a result, PMSA proposes a Facilitating Measure in the proposed Addendum that would require SCAQMD, POLA, and POLB to solicit timelines from the utilities for detailed targets for the utilities' actions which are identified as necessary for the zero-emissions transition, with regular updates. While the Cooperative Agreement requires infrastructure plans, those will be reasonably centered on port actions that are important but not a substitute for the development of utility infrastructure. Through this proposed Facilitating Measure, the ports and the District can share with us and the public where the utilities actually are in delivering the needed infrastructure.

Comment
12-4

Improved Port Support for Zero-Emission Infrastructure in the Port Complex

It is concerning that \$40 million have been identified for off-port infrastructure, but no port funding has been identified in the proposed Addendum for on-port infrastructure to support the CAAP Plus measures. It is critical that the ports identify funding for infrastructure to support on-port improvements.

Comment
12-5

Include Incentives for the use of Clean Alternative Fuels

The proposed Addendum includes incentives for ZE truck utilization but does not do the same for other port sources, including oceangoing vessels. This is an oversight. As a result of policies, California has the highest energy costs in the nation. Whether it is electricity or conventional fuels, California is unsurpassed for unaffordable energy that hampers the transition to new technologies. A critical step that the District and the ports could take would be to provide an incentive that would buy down the price of electricity, green hydrogen, green methanol, and green liquefied natural gas, and potentially other fuels. Such an incentive could bring several benefits. First, since it is a use-based incentive, the benefit accrues with every dollar spent. Second, a fuel incentive would encourage equipment operators to prioritize the use of clean technologies over conventional technologies in mixed fleets. Finally, there are existing situations where green fuels could be used in dual fuel technologies but are not, particularly as a marine fuel.

Comment
12-6

ZE Truck Utilization Incentive

PMSA is pleased that the ports and SCAQMD have proposed the ZE Truck Utilization as a port-level trip-based incentive rather than attempting to develop programs that focus on the interface between on-road trucks and marine terminals. Every terminal in San Pedro Bay has significant differences in operations and no single program would likely meet the operational needs of the various terminals and achieve the goals of increasing ZE truck utilization. In fact, a terminal-focused approach could potentially increase idling and emissions if it unintentionally interferes with terminal operations. A trip-based

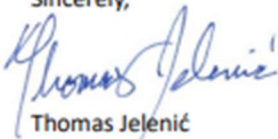
Comment
12-7

approach administered by the ports is the right approach. It provides a consistent approach across all terminals and does not implicate specific terminal operations.

Conclusion

PMSA looks forward to continuing to work through this process and the successful adoption of the proposed Addendum with the recommendations noted above. With those changes, the Addendum should move swiftly to the respective Boards of the SCAQMD, POLA, and POLB in August.

Sincerely,



Thomas Jelenić
Vice President

cc: Port of Los Angeles Board of Harbor Commissioners
Port of Long Beach Board of Harbor Commissioners
Gene Seroka, Port of Los Angeles
Noel Hacegaba, Port of Long Beach
Wayne Nastri, South Coast Air Quality Management District

Comment
12-7, Cont'd

Responses to Written Comment #12:

Ports Response to Comment 12-1

While the Ports may provide South Coast AQMD with a list of criteria to be considered by South Coast AQMD in selecting a project, each Port remains solely responsible for determining that any funded project complies with the Tidelands Trust doctrine. The language of the Agreement has been updated to provide further clarification.

Staff Response to Comment 12-2

South Coast AQMD has experience administering similar programs to the program described in the Regional Off-Port Truck Charging and Fueling Infrastructure measure, such as the Carl Moyer Program. Based on this experience there is a significant amount of work involved in administering these programs. These programs require extensive participation by numerous South Coast AQMD staff in Finance, Legal, Information Management, and the Technology Advancement Office, in order to undertake program design and development, including development of an application portal, contracting work, fund management, invoice review and approval, and audits, along with verification and reporting out on contracts and project implementation. These projects require continuous legal review and oversight to ensure projects are complying with contract terms as well as with general contracting laws and principles. Therefore, recovery of South Coast AQMD's reasonable costs is necessary as there are real costs required for staffing resources associated with administering these programs.

For the Regional Off-Port Truck Charging and Fueling Infrastructure measure, the exact level of the administration fee will be determined during the subsequent billing of the selected project, and the amount is not to exceed the ceiling of 10% of the project cost. This fee is lower than costs that are recovered through other South Coast AQMD-administered incentive programs due to the more streamlined process anticipated for administering this program, including potential project solicitation in conjunction with other incentive programs. Additionally, South Coast AQMD does not engage in profit-generation and must recover costs for its regulatory actions through fees and for its voluntary actions through contract terms and conditions, such as the proposed cost recovery provision.

Ports Response to Comment 12-3

Many initiatives are being considered in the Port's current Green Shipping Corridor (GSC) working groups. The Ports continue to solicit input from expert stakeholders which will be incorporated into the GSC workplan. Concurrently, the Ports will conduct a public process to seek input on this measure after the proposed Addendum is approved.

Ports Response to Comment 12-4

Please refer to Ports Response to Comment 8-3.

Ports Response to Comment 12-5

It is anticipated that each Port will utilize revenues from collection of their Clean Truck Fund Rate (CTFR) to cover their portion of the \$40 million to South Coast AQMD for the proposed regional truck charging and fueling infrastructure measure. Funds collected through the CTFR are managed separately from other port funding, and have been directed, by each Port's Board of

Harbor Commissioners, to be used exclusively for the purpose of supporting the transition to zero-emission trucks for port operations.

Further, the Ports have each been very aggressive in pursuing state and federal grant funding on behalf of their tenants for zero-emission projects, including for zero-emission infrastructure. Combined to date, the Ports have secured more than \$340 million in grant funding for zero-emission on-port infrastructure development and matched with over \$100 million in Port funds. In addition, through the zero-emission infrastructure plans that will be developed under the terms of the Cooperative Agreement approved in 2025, both ports will be working with the operators to identify cost estimates and projected funding sources for developing zero-emission infrastructure on port-managed properties.

Ports Response to Comment 12-6

The draft measure for Enhanced Clean Ship Incentives proposes to consider several key areas for updating the Ports' existing incentive programs, including aligning with ESI 2.0, and potential "plus-up" incentives that could provide incentive funding based on utilization of cleaner marine fuels. The specific details of the program will be developed through a public process.

Ports Response to Comment 12-7

Thank you for your comment, and for sharing your support for a trip-based approach to the proposed zero-emission truck utilization program and support for the Addendum process.

Written Comment #13 from Harbor Trucking Association



May 29, 2026

South Coast Air Quality Management District
21865 Copley Dr.
Diamond Bar, CA 91765

RE: CAAP Plus measures/Ports-AQMD Cooperative Agreement Addendum
HTA Comments: Support for Immediate Implementation of the Drayage Truck Trip Utilization Program

To the South Coast Air Quality Management District,

On behalf of the Harbor Trucking Association and its members, we are writing to provide formal comments regarding the proposed expansion of the CAAP Plus measures. The Harbor Trucking Association (HTA) is a non-profit trade association representing motor carriers transporting marine containers to and from maritime ports on the United States West Coast (USWC). As the largest non-profit trade association exclusively representing harbor drayage carriers in the nation, we are committed to advocating for policies that support the operational and economic health of the drayage community.

We are submitting these comments in strong support of the Drayage Truck Trip Utilization incentive program as proposed in the Draft Proposed Addendum to Cooperative Agreement ver. 5-8-26. The HTA views this program as a "low-hanging fruit" initiative that provides immediate, quantifiable benefits to the industry. We offer the following counterpoints to ensure the program moves forward without administrative delay:

- **Elimination of Unnecessary Red Tape:** Adding longer comment periods to these draft guidelines creates unnecessary administrative hurdles for an incentive program that is ready for deployment.
- **Rewarding Early Adopters:** It is imperative that this program is implemented immediately to reward and assist the drayage motor carriers who have already taken the leap to adopt zero-emission technology.
- **Technological Readiness:** With the recent technological advancements and deployment of equipment like Tesla and Windrose trucks, the industry is positioned to scale operations now.
- **Signaling Private Investment:** Passage of this incentive program signals to privately funded charging infrastructure companies to continue developing much-needed sites throughout major freight corridors.
- **Addressing Cost Disparity:** Because the cost of operating zero-emission equipment is not on par with traditional diesel internal combustion engines, these utilization incentives are a mechanical necessity to encourage continued adoption.

The HTA remains committed to the goals of the Cooperative Agreement Among the South Coast Air Quality Management District, the City of Long Beach Harbor Department, and the City of Los Angeles Harbor Department. However, the transition to zero-emission technology depends on timely action. We urge the AQMD to avoid delays that could stall the momentum generated by private sector investments.

We appreciate your consideration of these comments.

Sincerely:

A handwritten signature in black ink, appearing to read "Robert Loya", is written over a horizontal line.

Robert Loya
CEO, Harbor Trucking Association
robert@harbortruckers.org

Comment
13-1

Ports Responses to Written Comment #13:

Thank you for your comments and for sharing your support for the proposed zero-emission truck utilization program. The specific details of the program will be developed through a public process which will proceed with urgency in keeping with the points raised in your letter.



BESI Cover Letter — Public Comment to AQMD — May 29, 2026

May 29, 2026

Deputy Executive Officer
Planning, Rule Development and Implementation Division
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

Submitted electronically to: Ports@aqmd.gov

RE: Public Comment Submission on the Updated Draft Cooperative Agreement Among South Coast AQMD, the City of Long Beach Harbor Department, and the City of Los Angeles Harbor Department (Released September 16, 2025)

Dear Deputy Executive Officer:

Biotech Energy Solutions, Inc. (BESI)¹ respectfully submits the enclosed public comments on the Updated Draft Cooperative Agreement released for public review on September 16, 2025.

Executive Summary

Advances in the formulation of fuel additives for internal combustion engines over the past decade have substantially improved the efficiency of the fuel combustion process. These advances improve engine performance, enabling reduced fuel consumption and sharp declines in the production of harmful pollutants — primarily oxides of nitrogen (NOx) and fine particulate matter (PM_{2.5}).

While aggressive efforts are underway to modernize port infrastructure, the inherent complexity and constraints of that transition require a protracted implementation extending to 2050 to reach zero-emission operation across all port activities. Although continuous progress can be made over the next 24 years, existing operations across all port activities will continue to rely on conventional equipment powered by internal combustion engines throughout that period.

While a variety of means are contemplated to mitigate emissions from these in-place mobile emission sources, the primary means requires interim physical retrofit or replacement of equipment on a one-by-one basis. The technological advances achieved in fuel additive formulations have, however, reached the stage where additive application to traditional and alternative fuels can attain comparable or, in some applications, greater emission reductions than other mitigation strategies — subject to verification under the regulatory framework discussed in this submission.

Rapid adoption of demonstrated safe and effective fuel additives on existing port equipment — equipment that will be retired once zero-emission replacements are in operation — has the potential to reduce emissions from the legacy equipment stock more quickly than any other interim measure, producing incremental air quality improvement and a corresponding reduction in

¹ BESI is in formation as a developer of marine fuel additive technology intended for application to harbor craft auxiliary engines and other port source categories. BESI's principals have a commercial interest in the policy framework that governs voluntary interim emission reduction measures at the San Pedro Bay Ports. We disclose this interest in the interest of transparency. The recommendations contained in this letter are framed as structural additions to the Agreement available to any qualifying measure, not as a request for any treatment specific to BESI or its technology.



BESI Cover Letter — Public Comment to AQMD — May 29, 2026

adverse health effects. Under the mid-to-upper scenario range modeled in Appendix A, that potential is on the order of approximately 240 to 790 cumulative avoided premature deaths and \$3.1 billion to \$10.2 billion in monetized public-health benefit over the buildout window — benefit that would otherwise not be achieved during the zero-emission transition to 2050.²

Promulgating regulatory rules and policies that promote rigorous but expedited review, assessment, and deployment of efficacious fuel additives — without undermining or delaying full implementation of zero-emission infrastructure — would enable the opportunity for these incremental health benefits to be realized. This submission recommends a structured framework, Accelerated Deployment of Voluntary Additive and Combustion Enhancements (ADVANCE), to do exactly that.

BESI's principal recommendation is that the Updated Draft Cooperative Agreement be expanded to include an Accelerated Deployment of Voluntary Additive and Combustion Enhancements (ADVANCE) framework as a complementary track alongside the phased Zero-Emission Infrastructure Plans. The framework would establish the formal mechanism through which the Ports, in coordination with South Coast AQMD, can investigate, characterize, and accelerate the deployment of voluntary, original-equipment-manufacturer-cleared measures during the buildout period. The detailed recommendations, justification, proposed CAAP Plus Measure language, and supporting public health and technical analysis are set forth in the main comment document and appendices enclosed.

We thank the District, the Port of Long Beach, and the Port of Los Angeles for the opportunity to participate in this public comment process and would welcome the opportunity to discuss the enclosed materials with South Coast AQMD staff at the agency's convenience.

Respectfully submitted,

Barry R. Sedlik
President and Co-Founder
Biotech Energy Solutions, Inc.
Email: bsedlik@biotechenergysolns.com
Phone: (213) 610-1010

Enclosures:

- Sedlik Comments on the Updated Draft Cooperative Agreement
- Appendix A — The Scale of Potential Public Health Benefit from ADVANCE Measures During the Buildout to Zero-Emission Port Operations by 2050
- Appendix B — The Vessel Speed Reduction Use Case for Fuel Additives (Technical Analysis)

² These figures are the conditional mid-to-upper range of the scenario analysis in Appendix A, contingent on demonstrated per-engine efficacy and participation; they are estimates of potential scale, not forecasts. Appendix A presents the full range (which extends lower under conservative assumptions), the year-by-year methodology, the key sensitivity parameters, and an independent regional cross-check against CARB's own harbor craft health analysis.

Comment
14-1, Cont'd

Executive Summary

Advances in the formulation of fuel additives for internal combustion engines over the past decade have substantially improved the efficiency of the fuel combustion process. These advances improve engine performance, enabling reduced fuel consumption and sharp declines in the production of harmful pollutants — primarily oxides of nitrogen (NOx) and fine particulate matter (PM2.5).

While aggressive efforts are underway to modernize port infrastructure, the inherent complexity and constraints of that transition require a protracted implementation extending to 2050 to reach zero-emission operation across all port activities. Although continuous progress can be made over the next 24 years, existing operations across all port activities will continue to rely on conventional equipment powered by internal combustion engines throughout that period.

While a variety of means are contemplated to mitigate emissions from these in-place mobile emission sources, the primary means requires interim physical retrofit or replacement of equipment on a one-by-one basis. The technological advances achieved in fuel additive formulations have, however, reached the stage where additive application to traditional and alternative fuels can attain comparable or, in some applications, greater emission reductions than other mitigation strategies — subject to verification under the regulatory framework discussed in this submission.

Rapid adoption of demonstrated safe and effective fuel additives on existing port equipment — equipment that will be retired once zero-emission replacements are in operation — has the potential to reduce emissions from the legacy equipment stock more quickly than any other interim measure, producing incremental air quality improvement and a corresponding reduction in adverse health effects. Under the mid-to-upper scenario range modeled in Appendix A, that potential is on the order of approximately 240 to 790 cumulative avoided premature deaths and \$3.1 billion to \$10.2 billion in monetized public-health benefit over the buildout window — benefit that would otherwise not be achieved during the zero-emission transition to 2050.¹

Instituting regulatory rules and policies that promote rigorous but expedited review, assessment, and deployment of efficacious fuel additives — without undermining or delaying full implementation of zero-emission infrastructure — would enable the opportunity for these incremental health benefits to be realized. This submission recommends a structured framework, Accelerated Deployment of Voluntary Additive and Combustion Enhancements (ADVANCE), to do exactly that.

¹ These figures are the conditional mid-to-upper range of the scenario analysis in Appendix A, contingent on demonstrated per-engine efficacy and participation; they are estimates of potential scale, not forecasts. Appendix A presents the full range (which extends lower under conservative assumptions), the year-by-year methodology, the key sensitivity parameters, and an independent regional cross-check against CARB's own harbor craft health analysis.

RE: Public Comment on the Updated Draft Cooperative Agreement Among South Coast AQMD, the City of Long Beach Harbor Department, and the City of Los Angeles Harbor Department (Released September 16, 2025)

Comment
14-1, Cont'd



BESI Public Comment to AQMD Cooperative Agreement — May 29, 2026

Biotech Energy Solutions, Inc. (BESI)² respectfully submits these comments on the Updated Draft Cooperative Agreement released for public review on September 16, 2025. We commend South Coast AQMD, the Port of Long Beach, and the Port of Los Angeles for the significant work reflected in the Updated Draft, and we strongly support the Agreement's objective of advancing zero-emission infrastructure planning at the San Pedro Bay Ports.

1. Primary Recommendation

Our comments concern a specific opportunity to strengthen the Agreement: the explicit inclusion of Accelerated Deployment of Voluntary Additive and Combustion Enhancements (ADVANCE) — structured around three coordinated tracks (Verification, Buildout Bridge, Methodology) — as a complementary pathway alongside the phased Zero-Emission Infrastructure Plans, supported by an expanded role for Environmental Ship Index (ESI) and analogous incentive frameworks already referenced in the Agreement's underlying CAAP context. Two accompanying appendices support this letter: Appendix A presents scenario-based modeling of the cumulative public health impact of ADVANCE measures over the 24-year buildout to the Ports' 2050 zero-emission goal, and Appendix B presents the technical analysis underlying the Vessel Speed Reduction (VSR) use case for fuel additives discussed in Section 6.5.

BESI respectfully recommends that the Updated Draft Cooperative Agreement be expanded to include an Accelerated Deployment of Voluntary Additive and Combustion Enhancements (ADVANCE) framework, structured around three coordinated tracks and established as a new CAAP Plus Measure alongside the Port Zero-Emission Infrastructure Plans currently in Attachment A.

ADVANCE-V (Verification Acceleration Track) asks that AQMD, in coordination with CARB, examine whether CARB Title 13, §2710 multimedia analysis verification can adopt a fast-track pathway for verified emission control strategies targeted at port source equipment — fast-track in the sense of accelerating the timeline to public health benefit from solutions that scientific advancement has already made available, preserving the multimedia analysis rigor that protects against MTBE-class problems while addressing the public health urgency of the 24-year buildout window.

ADVANCE-B (Buildout Bridge Recognition Track) asks that the Cooperative Agreement explicitly recognize the deployment of §2710-verified strategies during the buildout period as a qualifying voluntary compliance pathway, structurally analogous to established California precedent — most directly CARB's own Alternative Control of Emissions (ACE) mechanism in the Commercial Harbor Craft Regulation — with credit bounded by Port-committed operational zero-emission milestones and extension only by formal Port Board action plus AQMD/CARB certification anchored to the implementation realities the Agreement already acknowledges in Attachment A Section A.3.

ADVANCE-M (Methodology Track) asks that the Cooperative Agreement commit to a process under which the Emissions Inventory Technical Working Group develops the methodology for incorporating §2710-verified reductions into the annual Ports Emissions Inventory, with timeline coordinated to the Phase 1, 2, and 3 Zero-Emission Infrastructure Plan deadlines.

Comment
14-1, Cont'd

The ADVANCE framework operates exclusively against the emissions of existing internal combustion infrastructure during the period in which that infrastructure is being replaced under the Zero-Emission Infrastructure Plans. It does not reduce the scope, scale, or schedule of zero-emission infrastructure deployment, does not provide an alternative pathway to zero-emission obligations, and does not create credit that is convertible into reductions of zero-emission commitments. Each ADVANCE measure sunsets automatically as the source category to which it applies transitions to zero-emission operation. The public health benefit the framework delivers is benefit that the buildout window would otherwise forgo; it is not benefit that displaces the larger zero-emission transition.

This recommendation is grounded in the Agreement's own structure and recitals, in the Ports' own published emissions inventories, in the peer-reviewed public health literature, and in the established California regulatory architecture for verified emission control strategies, as set forth in the sections that follow and in Appendix A.

2. Justification

2.1 The Agreement's public health stakes warrant every plausible complementary measure.

Recital I.A.4 cites the estimated public health outcomes of implementing the 2022 AQMP Control Measures: 1,500 premature deaths avoided annually, 1,500 emergency department visits avoided, 8,700 hospital admissions avoided, 96,000 school days and 66,000 work days preserved, and \$19.4 billion in monetized public health costs avoided each year. These figures represent the public-health value of achieved emission reductions, not of planning documents alone.

2.2 The Agreement candidly acknowledges that infrastructure alone cannot deliver attainment.

Joint Recital I.C.7 reproduces from the 2022 AQMP Executive Summary the conclusion that "even if all sources regulated by CARB and South Coast AQMD were zero emissions, federal sources alone would emit substantially more than the 60 tons per day NO_x limit, thwarting any other actions to meet the standard." If infrastructure planning alone cannot deliver attainment, and federal action is uncertain, the difference must be made up by complementary measures applied to the existing port source equipment during the buildout period.

2.3 The Agreement already contemplates voluntary interim measures.

Section II.A.1.e preserves AQMD's ability to seek SIP credit for voluntary mobile source measures. AQMP Control Measure MOB-01, cited in Recital I.A.3.a, identifies "incentive funding or other voluntary measures that can achieve and/or facilitate emission reductions" as a pathway to the Control Measure's objectives. The ADVANCE framework fits within these existing provisions.

2.4 The Ports' 2050 zero-emission goal defines a 24-year buildout window.

Comment
14-1, Cont'd

Port of Long Beach CEO Dr. Noel Hacegaba reaffirmed the goal of POLB becoming “the first zero-emissions port in the world” by 2050 in his State of the Port address on January 15, 2026. POLA is aligned with this trajectory. Existing CAAP intermediate targets — zero-emission cargo-handling equipment by 2030 and zero-emission drayage trucks by 2035 — provide important milestones, but each is also subject to the implementation realities the Agreement itself acknowledges in Attachment A Section A.3 (feasibility) and Recital I.B.2 (LADWP non-binding). The 2026–2049 buildout period is the window in which ADVANCE measures operate.

2.5 The operative regulatory gates for verified complementary measures are CARB Title 13, §2710 and the Emissions Inventory Technical Working Group.

The deployment in California of verified emission control strategies for port source equipment — including fuel additives, combustion improvers, and analogous measures — is gated by two distinct regulatory mechanisms operating in sequence. CARB Title 13, §2710 establishes the multimedia analysis verification framework that protects against MTBE-class problems by ensuring a strategy is environmentally protective across water, soil, and ecological dimensions in addition to the air-emissions reduction it delivers. The Emissions Inventory Technical Working Group, an agencies-driven body that oversees emissions inventory preparation in the San Pedro Bay Ports, develops the methodology by which verified strategies enter the annual Ports Emissions Inventory and produce creditable reductions. Both mechanisms are appropriate; both, at current pacing, are the operative constraints on the delivery of complementary public health benefits during the buildout window. The three-track ADVANCE framework proposed in Section 4 is structured to engage these gates constructively rather than around them.

2.6 The Commercial Harbor Craft Regulation establishes an in-force compliance obligation — and a built-in flexibility mechanism — for the Phase 2 harbor craft category.

Harbor craft are a Phase 2 source category under Attachment A and are independently governed by CARB’s Commercial Harbor Craft Regulation (Cal. Code Regs., tit. 17, § 93118.5; tit. 13, § 2299.5). The Regulation is adopted, promulgated as State law, and in force: in January 2025 the U.S. EPA issued a partial authorization under Clean Air Act § 209(e) covering substantially all of its performance requirements (90 Fed. Reg. 1,998, Jan. 10, 2025), and CARB is implementing the Regulation, with only two narrow provisions left unenforced. The operative compliance architecture established by the 2022 Amendments comprises a renewable-diesel mandate (R99/R100) under subsection (e)(7), Tier 3-plus-DPF and Tier 4-plus-DPF engine performance standards under subsections (e)(10) and (e)(12), and a structured set of feasibility extensions. The harbor craft category therefore carries a real, enforceable in-use compliance obligation across the buildout window — the regulatory condition under which a voluntary interim measure becomes meaningful to operators.

Critically, the CHC Regulation already contains, in subsection (f), an Alternative Control of Emissions (ACE) mechanism whose express purpose is to allow an operator the option of applying alternative strategies to achieve equivalent or additional emission reductions in lieu of the requirements of subsection (e). ACE permits an operator to be deemed in compliance by implementing an alternative emission control strategy (AECS) approved by CARB’s Executive

Comment
14-1, Cont’d

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14-2

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14-3

Officer, provided the AECS achieves diesel-PM and NOx reductions — evaluated separately, in cumulative pounds over a January 1, 2023 through December 31, 2034 evaluation period — equal to or greater than the Nominal Compliance Baseline of direct compliance (inclusive of up to two years of feasibility extension). The AECS menu under subsection (f)(1)(E) is open-ended, expressly including engine modifications, exhaust treatment control, repower or rebuild, ZEAT deployment, shore power, fleet averaging, CARB Approved Emission Control Systems, and “any other measures that sufficiently reduce emissions.” ACE is, in other words, a CARB-authored, currently-operating precedent — in the very source category these comments address most directly — for the voluntary-alternative-strategy structure the ADVANCE framework proposes.

Comment
14-3, Cont'd

3. The Scale of Potential Public Health Benefit During the Buildout to 2050

A long-standing concern in the public discourse on complementary or interim emission-reduction measures is that such measures may reduce the urgency of zero-emission technology adoption and provide cover for delayed capital investment in zero-emission infrastructure. The concern is real and historically grounded. BESI addresses it not by claiming that interim measures will deliver specific reductions in any specific port source application — that is what structured investigation is designed to determine — but by demonstrating that the scale of potential public health benefit is large enough, relative to the multi-year buildout window, to warrant the structured pursuit of such measures during that window.

Appendix A to this letter examines the scale of potential cumulative public health benefit over the 24-year buildout period from 2026 through 2049. The analysis is built up year by year across the buildout window rather than as a single steady-state estimate, applying a five-year deployment ramp to a declining emissions trajectory. It is parameterized by two dimensions: the breadth of port source equipment coverage and participation, and the per-engine efficacy of interim measures at the relevant operating points, with efficacy expressed as paired NOx and PM reduction levels rather than a single NOx-only figure. The emissions basis is resolved across five port source categories — ocean-going vessel in-transit propulsion, harbor craft, drayage trucks, locomotives, and cargo-handling equipment — with the At Berth (hoteling) category excluded because vessels at berth are increasingly served by shore power and are not a target operating regime for combustion-side measures. Public health benefit is attributed through three pathways (NOx-driven, PM-driven, and the combined effect) and anchored to AQMD’s own annual public health figures from Recital I.A.4, apportioned to port source contribution and summed across the buildout window.

Comment
14-4

Under modest assumptions (Moderate coverage; Central paired efficacy of NOx 20%/PM 30%), the cumulative potential is approximately 238 premature deaths avoided and ~\$3.1 billion in monetized public health benefit over the buildout window. At the lower bound (Limited coverage; Conservative paired efficacy of NOx 10%/PM 20%), the potential is approximately 53 deaths avoided and ~\$680 million. Under broader theoretical upper-bound assumptions (Broad coverage; High to Upper paired efficacy), the potential reaches approximately 615 to 790 deaths avoided and \$7.9 to \$10.2 billion. These are not projections of expected outcome; they are estimates of the scale of potential benefit conditional on the coverage and paired-efficacy parameters indicated, with combined uncertainty that is correspondingly wide. Appendix A

presents the full 3×4 sensitivity matrices (deaths, hospital admissions, monetized benefits), the year-by-year methodology, the key sensitivity parameters, and the supporting evidence base.

Independent analysis confirms the structural picture this section describes. An independent emissions analysis prepared by Ramboll (June 27, 2024) modeled the San Pedro Bay Ports NO_x emissions trajectory under regulatory and reasonable business-as-usual scenarios through 2031 and 2037. Under the Regulatory BAU scenario, total port-source NO_x declines from 31 tons per day in 2022 to 21 tons per day by 2037 — a 32% reduction over 15 years, considerably less than the 70% reduction (105 → 31 TPD) achieved over the prior 17 years (2005 to 2022). Of the 21 TPD remaining at 2037 under Regulatory BAU, ocean-going vessels (at-berth and in-transit combined) account for approximately 90%. The analysis further finds that the addition of the Proposed CHE Rule to the Regulatory BAU scenario reduces 2037 total NO_x by only approximately 1 TPD (21 → 20 TPD); Ramboll observes that the rule's benefits would be "more significant for local air quality effects, than regional emissions as a whole." The structural implication is the same one this section makes from AQMD's own public health figures: single-source-category infrastructure measures, while important locally, do not address the residual regional emissions that remain across the buildout window. Complementary measures applied across multiple source categories during the buildout — including OGV propulsion and auxiliary engines, where the dominant remaining mass lives — are warranted.

Appendix A also addresses why marginal reductions during the buildout period carry disproportionately greater public health value, not less — because the PM_{2.5} exposure-response curve is sub-linear (Shi et al., 2020, Environmental Health), meaning each additional µg/m³ reduction at the lower concentrations the Ports have now achieved delivers more mortality benefit per unit than reductions at higher concentrations.

4. Proposed CAAP Plus Measure: Accelerated Deployment of Voluntary Additive and Combustion Enhancements (ADVANCE)

BESI proposes the following framework, to be added to Attachment B (currently noted as "To Be Negotiated") or established as a new Attachment alongside Attachment A. The framework is structured around three coordinated tracks that engage the operative regulatory gates identified in Section 2.5: ADVANCE-V (Verification Acceleration), ADVANCE-B (Buildout Bridge Recognition), and ADVANCE-M (Methodology). Each track addresses a distinct structural gap that currently prevents the regulatory architecture from delivering complementary public health benefits during the 24-year buildout window. The three tracks operate together under the Non-Substitution Principle set forth in Section 4.2.

4.1 Purpose

To enable, recognize, and report the investigation and accelerated deployment of CARB Title 13, §2710-verified emission-reduction measures addressing port-related and goods movement mobile source emissions, in order to bring forward air quality and public health benefits during the period in which zero-emission infrastructure is being planned, permitted, financed, and constructed under the Port Zero-Emission Infrastructure Plans, consistent with the public health

Comment
14-4, Cont'd

Comment
14-5

objectives of the 2022 AQMP Control Measures and the regulatory protections of CARB Title 13, §2710.

4.2 Non-Substitution Principle (Foundational)

The ADVANCE framework operates exclusively against the emissions of existing internal combustion infrastructure during the period in which that infrastructure is being replaced by zero-emission alternatives under the phased Zero-Emission Infrastructure Plans. The framework does not reduce the scope, scale, or schedule of zero-emission infrastructure deployment; it does not provide an alternative pathway to zero-emission obligations; it does not create credit that is convertible into reductions of zero-emission infrastructure commitments. The framework reduces interim emissions during the buildout period that would otherwise persist until full zero-emission operational deployment. Each ADVANCE measure sunsets automatically as the source category to which it applies transitions to zero-emission operation, with extension only by the formal mechanism set forth in Section 4.4. The public health benefit that ADVANCE delivers is benefit the buildout window would otherwise forgo; it is not benefit that displaces the larger zero-emission transition.

The Non-Substitution Principle is foundational to every operational element of the ADVANCE framework. Eligibility criteria (Section 4.6), reporting requirements (Section 4.7), and Clean Air Mitigation Fund eligibility (Section 4.8) all operate subject to this principle.

4.3 ADVANCE-V — Verification Acceleration Track

CARB Title 13, §2710 multimedia analysis verification is the legal gateway for diesel fuel additive use in California and for analogous emission control strategies in adjacent fuel categories. The verification framework was established in 2002 to support CARB's Diesel Risk Reduction Plan and reflects the MTBE-era judgment that fuel-side measures require multimedia examination — water, soil, ecology, public health — in addition to the air-emissions reduction they deliver. That judgment remains correct. The framework's multimedia rigor protects California from MTBE-class problems and should not be relaxed.

The current §2710 verification queue and review timeline were, however, calibrated to the pace of additive innovation at an earlier point. Scientific advancement since that calibration has produced new generations of fuel-side measures with broader engine-type applicability, higher per-engine efficacy at part-load operating regimes relevant to port source equipment, and improved compatibility with existing post-combustion emission control systems. The public health stakes of the 24-year buildout window create an urgency that the current pacing did not anticipate.

ADVANCE-V asks that AQMD, in coordination with CARB, examine whether §2710 multimedia analysis can adopt a fast-track pathway for verified emission control strategies targeted at port source equipment, where: (a) public health benefit per unit of emission reduction is highest (sub-linear PM2.5 dose-response, Appendix A); (b) the operational envelope is bounded (defined source categories, defined fuel specifications, defined duty cycles); (c) verification mechanics are well-defined (per-engine measurement protocols and observed emission factor methodologies exist); and (d) the buildout window creates urgency (benefits accruing during 2026–2049 vs. only after full operational electrification).

Comment
14-5, Cont'd

BESI uses “fast-track” deliberately. Conventional usage of the term in regulatory discourse denotes a mechanism for bypassing scrutiny — accelerating approval by relaxing review. ADVANCE-V inverts that convention. What ADVANCE-V proposes is acceleration of the timeline to public health benefit from strategies that scientific advancement has already made available but that regulatory pacing has held in queue. The multimedia analysis rigor that the §2710 framework was designed to deliver is preserved. What is accelerated is the pacing of review for a defined class of measures with high public health value during a constrained buildout window. AQMD has standing in its coordinating role with CARB to ask whether the §2710 process can achieve this acceleration without compromising the multimedia rigor that protects California from MTBE-class problems.

The mechanisms by which such acceleration can occur are ones the multimedia evaluation framework already contains. The framework is structured in sequential tiers, with defined provisions for concluding the evaluation where the initial tier identifies no significant adverse impacts and no outstanding priority knowledge gaps; for drawing on the existing body of evaluation data, including data from fuels and formulations of similar source or production process; and for bounding the assessment to a defined comparison fuel and operating envelope. A measure addressed to a defined port source category, a defined fuel specification, and a defined duty cycle — precisely the bounding ADVANCE-V contemplates — presents the multimedia framework with a well-scoped evaluation in which these existing provisions can be brought to bear, and in which the performance-verification and multimedia-evaluation steps can proceed in coordination rather than in sequence. The acceleration ADVANCE-V seeks is the application of these existing mechanisms, together with prioritized review attention for measures of high public-health value to the port communities, to a defined class of port-source measures during a constrained buildout window. None of it requires relaxing the multimedia rigor the §2710 framework exists to provide.

ADVANCE-V is the primary track of the ADVANCE framework. ADVANCE-B and ADVANCE-M operate as parallel and supporting elements that become substantively meaningful only as §2710 verification occurs through the pathway ADVANCE-V seeks to accelerate.

4.4 ADVANCE-B — Buildout Bridge Recognition Track

Even where a §2710-verified emission control strategy exists, deployment by port operators requires that the strategy generate creditable emission reductions within a recognized regulatory framework. California’s most directly applicable precedent is CARB’s own Alternative Control of Emissions (ACE) mechanism in the Commercial Harbor Craft Regulation (Cal. Code Regs., tit. 17, § 93118.5(f)), described in Section 2.6. ACE is a built-in, operating flexibility mechanism: it permits a harbor craft operator to satisfy the Regulation’s performance requirements by implementing an Executive-Officer-approved alternative emission control strategy that achieves diesel-PM and NO_x reductions equal to or greater than direct compliance, measured in cumulative pounds across the 2023–2034 evaluation window, drawn from an open-ended menu that culminates in “any other measures that sufficiently reduce emissions.” The longstanding California treatment of verified diesel emission control strategies as voluntary options within compliance menus established under CARB’s Diesel Risk Reduction Plan provides the broader lineage; ACE is the specific, current, source-category-matched instance of it.

Comment
14-5, Cont’d

Comment
14-6

The structural significance of ACE for ADVANCE-B is twofold. First, it demonstrates that the flexibility ADVANCE-B asks the Cooperative Agreement to recognize is not novel — CARB has already established the identical species of mechanism by regulation for this exact source category. ADVANCE-B is therefore consistent with, and modeled on, existing California regulatory protocol rather than a departure from it. Second, the ACE equivalence test confirms that a §2710-verified fuel additive can, in principle, qualify as an alternative strategy in its own right. Because ACE measures equivalence in cumulative PM and NOx poundage over the 2023–2034 window — against a baseline that itself incorporates feasibility extensions — a fuel additive deployed fleet-wide and early, including across years in which baseline equipment would otherwise operate under extension, may accrue cumulative reductions equal to or greater than a later-arriving engine-and-aftertreatment compliance path, and may further be combined with fleet averaging and other AECS elements. Whether a given additive clears the ACE baseline in a given fleet is an empirical question that CARB §2710 multimedia analysis verification and the ACE application process are designed to answer. ADVANCE-B does not presuppose the answer; it asks that the framework exist so the question can be put.

Date-Certain Sunset Architecture. ADVANCE-B credit accrues during the buildout period for a given source category and sunsets at the Port-committed operational zero-emission milestone for that source category. The Cooperative Agreement's Phase 1, 2, and 3 Zero-Emission Infrastructure Plan deadlines (Attachment A) establish the milestone dates by source category. ADVANCE-B credit is bounded by these milestone dates.

Formal Extension Mechanism. If the operational zero-emission milestone for a given source category cannot be met on its originally committed date due to documented implementation realities — those that Attachment A Section A.3 already acknowledges, including electric serving capacity, tenant lease amendments, CEQA/NEPA review, supply chain constraints, and federal source contribution — the operational milestone date can be extended, but only by formal action: (i) Port Board action committing to the revised date with documented justification anchored to the Section A.3 implementation realities the Agreement already acknowledges, and (ii) AQMD and CARB certification that the extension is warranted and not the result of operator avoidance of zero-emission obligations. When the operational milestone is extended through this formal mechanism, ADVANCE-B recognition extends correspondingly — but only for the duration of the formally-certified extension, and only because the underlying internal combustion equipment will continue operating during that extension period.

The Date-Certain Sunset architecture serves three structural purposes simultaneously. First, it gives operators the credit certainty required to justify §2710-verified deployment during the buildout — without which voluntary deployment by industry participants is unlikely to materialize at scale, as the credit-pathway dependency discussed in Section 7.2 reflects. Second, it makes the Non-Substitution Principle operationally enforceable: ADVANCE-B credit literally cannot accrue beyond the Port-committed operational milestone for the source category, and any extension requires three regulatory bodies (Port Board, AQMD, CARB) to sign off on documented Section A.3 implementation realities. Third, it creates a structural incentive for the Ports to commit to realistic operational milestones, because aspirational milestones that require repeated extensions will face uncomfortable public scrutiny through the formal extension process.

Comment
14-6, Cont'd

Aggregate Target / Voluntary Pathway. Building on the same precedent — verified strategies as voluntary options within compliance menus — ADVANCE-B operates with a buildout-period interim emission reduction target established at the source-category-aggregate level (not at the individual operator level) and a voluntary pathway by which operators contribute to meeting that target. The target is a Cooperative Agreement commitment; the pathway is the operator's choice among ADVANCE-V-verified strategies, early voluntary zero-emission conversion ahead of schedule, verified retrofit technologies, verified alternative fuels, or analogous qualifying measures. The methodology for establishing the buildout-period interim target is the subject of ADVANCE-M (Section 4.5).

Comment
14-6, Cont'd

4.5 ADVANCE-M — Methodology Track

Even where a §2710-verified emission control strategy exists and the Cooperative Agreement recognizes its deployment under ADVANCE-B, the resulting emission reductions cannot enter the annual Ports Emissions Inventory unless the Emissions Inventory Technical Working Group develops the methodology by which verified reductions are credited. The Working Group is an agencies-driven body that determines emission factor methodologies; the Ports cannot determine efficacy unilaterally.

ADVANCE-M asks that the Cooperative Agreement commit to a process under which the Emissions Inventory Technical Working Group develops the methodology for incorporating §2710-verified reductions — including those from fuel additives, combustion improvers, verified retrofit technologies, and analogous strategies — into the annual Ports Emissions Inventory. The methodology development effort would establish the per-engine emission factor adjustments, duty-cycle weighting protocols, and verification reporting requirements by which §2710-verified reductions are accurately reflected in inventory results.

Comment
14-7

The ADVANCE-M process commitment would also serve as the vehicle for establishing the buildout-period interim emission reduction target referenced in Section 4.4. The Working Group is the appropriate body to develop the methodology by which such a target is calibrated to public health benefit during the buildout window, given the Working Group's established role in port emissions inventory methodology and its agencies-driven composition.

Timeline. ADVANCE-M methodology development would be coordinated to the Phase 1 (CHE and drayage, December 2027), Phase 2 (harbor craft and locomotives, December 2028), and Phase 3 (OGV, December 2029) Zero-Emission Infrastructure Plan deadlines under Attachment A. Methodology completion ahead of each Phase's operational milestone allows ADVANCE-B credit mechanics to be operational as the relevant source category enters the buildout window.

4.6 Eligibility Criteria for an ADVANCE Measure

Each measure adopted under the ADVANCE framework would satisfy all of the following:

- The measure has obtained CARB Title 13, §2710 multimedia analysis verification (where applicable to its fuel category and source application) or is in active §2710 verification under the ADVANCE-V fast-track pathway proposed in Section 4.3.

Comment
14-8

- The measure achieves quantifiable reductions in NO_x, diesel particulate matter, or other criteria pollutants from one or more port source categories, verifiable using emissions estimation methodology generally consistent with CARB and USEPA published methodologies (Recital I.B.5) and the methodology established by the Emissions Inventory Technical Working Group under ADVANCE-M.
- The measure has obtained technical concurrence from the relevant original equipment manufacturer or manufacturers, in a form such as a No Objection Letter or equivalent, addressing engine compatibility, fuel specification neutrality, emissions system compatibility, and liability allocation.
- The measure is applied within a defined operating envelope and does not require modification of existing engines, fueling logistics, or vessel operations beyond the application of the measure itself.
- The provider of the measure carries product liability insurance appropriate to the application, and assumes responsibility for the performance and effects of the measure within the defined operating envelope.
- The measure is implemented under a structured pilot or deployment protocol with pre-deployment baseline data, periodic in-service monitoring, and post-deployment reporting suitable for inclusion in the annual Ports Emissions Inventory under the methodology established through ADVANCE-M.

4.7 Reporting and Integration

- Each Port shall report ADVANCE deployments and verified emission reductions in the annual Ports Emissions Inventory (Recital I.B.5 / Section II.B.3.c), using the methodology established through ADVANCE-M.
- Each Port shall report ADVANCE progress in the Annual Report (Attachment A Section G), alongside the Zero-Emission Infrastructure Plan progress reporting, including the status of any Section 4.4 formal extension actions affecting ADVANCE-B recognition.
- South Coast AQMD shall consider ADVANCE verified reductions when seeking SIP credit under Section II.A.1.e.
- ADVANCE deployments do not modify, replace, or excuse the planning deadlines, public-process obligations, or enforcement provisions of the Port Zero-Emission Infrastructure Plans under Attachment A. ADVANCE measures are explicitly additive to, not substitutes for, the zero-emission infrastructure track, in accordance with the Non-Substitution Principle of Section 4.2.

4.8 Eligibility for the Clean Air Mitigation Fund

BESI further recommends that voluntary ADVANCE deployments meeting the criteria above be included on the list of pre-approved Tidelands-compliant project types that each Port's Board of Harbor Commissioners is required to approve under Section II.L.4.b. Such measures meet the Tidelands Trust criteria in Section II.L.4.a: port operations are responsible for the impacts being mitigated, there is a direct nexus between port operations and the proposed mitigation, and the

Comment
14-8, Cont'd

mitigation can be sized proportional to the impacts. Clean Air Mitigation Fund support for ADVANCE deployments operates subject to the Non-Substitution Principle of Section 4.2; such support may not be used to reduce, delay, or substitute for zero-emission infrastructure investment under Attachment A.

5. Environmental Ship Index Integration: A Layered Proposal

The Environmental Ship Index (ESI), administered internationally by the International Association of Ports and Harbors, is a voluntary scoring system that ports worldwide use to incentivize cleaner vessel operations. POLA currently pays \$2,500 per vessel call to vessels scoring ESI ≥ 50 , with an additional \$5,000 per call for IMO Tier III engines; POLB's Green Ship Program uses ESI registration as a qualification gateway with engine-tier-driven incentive escalation. The Updated Draft Cooperative Agreement and its underlying CAAP context already recognize ESI as part of the voluntary OGV control strategy.

BESI proposes a three-part layered integration of ESI with the ADVANCE framework:

5.1 Recognition of ADVANCE-deployed vessels in existing ESI/Green Ship incentive programs

Vessels that deploy a verified ADVANCE measure (meeting the eligibility criteria in Section 4.6) would earn the existing ESI per-call incentive at POLA and POLB on the same basis as vessels achieving comparable verified reductions through other means. This requires no change to ESI scoring methodology — it recognizes that ADVANCE-attributable reductions are functionally equivalent to other ESI-scored reductions for incentive purposes.

5.2 Expansion of ESI scoring methodology to credit additive-driven and other ADVANCE reductions explicitly

BESI recommends that POLA, POLB, and AQMD coordinate with the International Association of Ports and Harbors to propose explicit ESI scoring criteria for additive-driven emission reductions and other ADVANCE categories. The IAPH announced in March 2024 a major revision of the ESI methodology, with the new core module coming online in 2027 following a transition through 2025–2026, that introduces new modules for at-berth performance, zero-emission innovation rewards, and updated GHG methodology. This revision cycle represents a natural opening for explicit recognition of fuel-side measures (including §2710-verified additives and combustion improvers) within the ESI scoring framework. Coordinated engagement by POLA, POLB, and AQMD on this revision would position the San Pedro Bay Ports as the originators of a globally relevant framework consistent with POLB's stated ambition of becoming "the first zero-emissions port in the world."

5.3 A new "Voluntary Interim Measures" recognition tier modeled on ESI

Where the existing ESI framework does not readily accommodate a particular ADVANCE category (for instance, harbor craft, which are not the primary ESI focus), BESI proposes the creation of a parallel "Voluntary Interim Measures" recognition tier, modeled on ESI's structure and administered by AQMD or the Ports. This tier would provide per-call or per-operating-period incentives for verified ADVANCE deployments on harbor craft, drayage trucks, and cargo-

Comment
14-8, Cont'd

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14-9

handling equipment during the buildout period to the corresponding Zero-Emission Infrastructure Plan operational date, with recognition bounded by the date-certain sunset architecture of Section 4.4.

The harbor craft case illustrates that this is not a novel construct: CARB's Commercial Harbor Craft Regulation already establishes, in its ACE mechanism (Section 2.6), a voluntary alternative-strategy pathway for this exact source category. The "Voluntary Interim Measures" tier proposed here extends the same recognized structure to the Green Ship / ESI incentive context for harbor craft and other non-OGV categories during the buildout period.

Comment
14-9, Cont'd

6. Recommendations Building on the Ports' Existing Commitments (May 14, 2026 Public Meeting, Slide 15)

At the May 14, 2026 public meeting, the Ports identified three ongoing commitments outside of the Cooperative Agreement under the heading "Ports' Ongoing Commitments Outside of Cooperative Agreement — OGV Examples" (Slide 15): a Clean Marine Fuels Assessment in support of Green Shipping Corridors evaluating clean marine fuels, supply and demand, and infrastructure gaps; a Clean Marine Fuels Pilot Project to be initiated by solicitation and, if qualified proposals are received, to demonstrate clean marine fueling operations in San Pedro Bay; and a Study of Vessel Emissions at Low Speeds to evaluate emission performance at different speeds for vessels calling at the San Pedro Bay Ports, to inform potential enhancements to existing programs. The Slide further notes that "South Coast AQMD and the Ports will continue to work together on various air quality programs and activities" with updates "provided through regular CAAP Meetings and other public processes conducted by the Ports."

BESI commends the Ports and South Coast AQMD for these commitments. They reflect a continuing spirit of collaboration on air quality measures that supplement the formal Cooperative Agreement framework. The recommendations below are offered as natural extensions of those three programs, consistent with the ADVANCE framework proposed in Sections 1 and 4 above, and with the public health benefits documented in Section 3 and Appendix A.

Comment
14-10

6.1 Expand the Clean Marine Fuels Assessment to include fuel additives

BESI respectfully recommends that the scope of the Clean Marine Fuels Assessment currently underway in support of Green Shipping Corridors be expanded to include the evaluation of fuel additives as a category of clean marine fuel technology. Additives are technically distinct from alternative fuels but operate in the same regulatory and operational space, with directly comparable considerations of supply, demand, infrastructure compatibility, and emission-reduction potential. Including additives in the existing Assessment ensures the Ports' analysis captures the full set of complementary technologies available during the buildout to the 2050 zero-emission goal, rather than treating additives as a separate exercise outside the Green Shipping Corridors framework. The mechanics of how additives are evaluated within the Assessment — criteria, timeline, deliverables — are appropriately defined by the Ports.

6.2 Initiate a separate fuel additive pilot ahead of the broader Clean Marine Fuels Pilot Project

BESI respectfully recommends that the Ports initiate a separate, focused pilot project to demonstrate fuel additive operations in San Pedro Bay, in advance of the more involved Clean Marine Fuels Pilot Project for alternative fuels. The sequencing logic is substantive: fuel additives can be evaluated against the existing port source equipment using existing fueling logistics, on a compressed timeline relative to alternative fuels, which require new supply chains, infrastructure investment, and qualified-vessel availability. A separate additive pilot, run in parallel with the broader Clean Marine Fuels Pilot Project's development, would generate operational data sooner, inform the design of the broader pilot, and contribute to the public health objectives during the buildout period. The criteria and mechanics of such a pilot — participating vessels, source categories, monitoring protocols, reporting cadence — are appropriately defined by the Ports.

6.3 Include fuel additives within the Study of Vessel Emissions at Low Speeds

BESI respectfully recommends that the Study of Vessel Emissions at Low Speeds be expanded to evaluate emission performance with fuel additive application across the relevant speed regimes. Low-speed operation in port approaches and within the harbor is a duty cycle in which combustion conditions differ materially from cruise operation; the additive's effects on emission performance in this regime are directly relevant both to enhancements of the Vessel Speed Reduction Program the Slide 15 framing contemplates, and to the broader ADVANCE framework proposed in this letter. The Study's methodology development would be appropriately coordinated with the Emissions Inventory Technical Working Group methodology effort proposed under ADVANCE-M (Section 4.5), ensuring that Study outputs inform — and are informed by — the broader methodology for incorporating verified reductions into the annual Ports Emissions Inventory. The design of the Study — speed ranges, source categories, measurement methodology — is appropriately defined by the Ports in coordination with South Coast AQMD and the Working Group.

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6.4 Extension of the OGV scope to harbor craft and cargo-handling equipment

The three commitments above are framed as "OGV Examples" on Slide 15. BESI respectfully recommends that the Ports consider extending each of the three programs above — or establishing parallel programs — to also encompass harbor craft and cargo-handling equipment source categories. Both categories are within the Ports' direct operational sphere, are scheduled for Phase 2 Zero-Emission Infrastructure Plans under Attachment A, and present additive-deployment and low-speed-emission considerations directly analogous to those for OGVs. Extending the three programs to these categories would provide a more complete picture of complementary measures across port source equipment during the buildout to 2050.

Comment
14-11

6.5 The VSR Use Case for Fuel Additives

The Vessel Speed Reduction Program is the operational context in which the technical case for fuel additives is strongest. Appendix B to this letter presents the detailed technical analysis and citations in full; this subsection summarizes the case for inclusion in Section 6 because it materially shapes the scope of the recommended Study of Vessel Emissions at Low Speeds and underscores why fuel additives should be evaluated within the broader OGV emission-reduction framework on Slide 15.

Comment
14-12

Container vessels — the dominant call-type at POLA and POLB — are designed for service speeds of approximately 24 knots with propulsion plants matched for ~85% Maximum Continuous Rating efficiency. Under the standard Propeller Law approximation for hull frictional resistance, a 24-knot-design vessel complying with the VSR's 12-knot threshold operates its main engine at approximately 12.5% MCR — squarely within the low-load regime in which both specific fuel consumption and specific NO_x emissions rise sharply. (The cube-law derivation and citations are provided in Appendix B.)

The peer-reviewed and agency-commissioned literature documents what this means in emissions terms. The ICCT's Real-World NO_x Working Paper (2023) found mean main engine NO_x emission rates of 8.1 g/kWh at loads above 75%, with materially higher rates at lower loads. The Explicit ApS study commissioned by South Coast AQMD (Contract No. 21222) documented observed NO_x emission factors above 15 g/kWh at lower speed ratios, noting that the IMO certification weighted-average method permits a 20% reduction at the highest load point to coincide with an 80% increase at the lowest load point. The illustrative arithmetic in Appendix B suggests that a VSR-compliant propulsion engine emits roughly 1.8× to 2× the NO_x per kilowatt-hour of work compared to the same engine at its design point.

Ocean-going vessels additionally operate three to seven auxiliary engines, typically medium-speed four-stroke diesels, that run continuously except when the ship is on shore power during hoteling. Per EPA Port Emissions Inventory Guidance Table 3-4, container ship auxiliary load factors are 0.13 (cruise), 0.25 (within the Reduced Speed Zone, i.e., the VSR zone), 0.50 (maneuver), and 0.17 (hotel). Auxiliary engines therefore represent a continuous NO_x and DPM source across the entire VSR transit, in addition to the main engine. The Wärtsilä 20 and Wärtsilä 32 medium-speed engine families — common OGV auxiliary configurations — have established No Objection Letter pathways through Wärtsilä Services for fuel-related modifications on Marine Gas Oil and Marine Diesel Oil operation, providing a technically well-defined entry point for additive characterization.

The implication for the Study of Vessel Emissions at Low Speeds is concrete: the study should characterize the additive's NO_x and DPM effect on both propulsion engines in the 10–20% MCR band (the VSR-compliant operating point) and auxiliary engines across the RSZ, Maneuver, and Hotel load factors. If the additive demonstrates a NO_x emission factor reduction in the 10–20% range at these operating points — a result that requires verification, which is the purpose of the study and of CARB §2710 multimedia analysis under ADVANCE-V — the implications include both an enhancement to current VSR-program air quality outcomes and the possibility that equivalent air quality outcomes could be achieved at higher (e.g., 14–16-knot) operating speeds within the VSR zone, reducing the operational burden on shipping companies while preserving the public health benefit.

Mechanics of the study — vessel selection, measurement methodology, OEM coordination, data reporting — are appropriately defined by the Ports in coordination with South Coast AQMD and the Emissions Inventory Technical Working Group. Appendix B offers detailed input to that scoping.

Comment
14-12,
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6.6 The fuel-supply deployment pathway allows phased, fleet-wide implementation for harbor craft and cargo-handling equipment without unit-by-unit equipment modification

A structural feature of fuel-side measures distinguishes them from the conventional control pathway and bears directly on how quickly public-health benefit can be realized during the buildout window. The conventional path to the Zero-Emission Infrastructure Plan endpoint — engine repower, Tier 3/4-plus-DPF retrofit, and zero-emission conversion — is inherently unit-by-unit and serialized: each tugboat, each cargo-handling loader is modified individually, gated by engine and aftertreatment availability, drydock and shop capacity, capital-replacement cycles, and the feasibility-extension queue. This is a principal reason the buildout to full implementation spans many years, with benefit accruing only gradually as equipment turns over one unit at a time.

A fuel additive is introduced at the fuel-supply point rather than at each engine. Because harbor craft and cargo-handling equipment draw from a relatively concentrated set of port and terminal fuel-supply points — and because harbor craft already operate on a controlled, specified fuel under the Commercial Harbor Craft Regulation's renewable-diesel (R99/R100) mandate — a §2710-verified additive could in principle be introduced to those fuel supplies and thereby reach much of the fleet drawing from them without modification to any individual vessel or piece of equipment. The practical consequence is a fundamentally different deployment curve: rather than a slow ramp tracking unit-by-unit equipment turnover, fleet-wide coverage for these categories could be approached through a small number of closely-spaced implementation phases tied to the fuel-supply points rather than to the equipment population. The mechanics — which fuel-supply points, dosing method, phasing sequence, and verification of in-use treat rates — are appropriately defined by the Ports and the fuel suppliers in coordination with South Coast AQMD; the structural point is that the fuel-supply pathway compresses the time to fleet-wide coverage in precisely the categories (harbor craft and cargo-handling equipment) where the buildout-window public-health stakes documented in Section 3 and Appendix A are most directly addressable by an interim measure.

This deployment characteristic reinforces, and is bounded by, the Non-Substitution Principle of Section 4.2: the fuel-supply pathway accelerates the delivery of interim benefit during the buildout, and each measure sunsets as the corresponding source category transitions to zero-emission operation. It is a means of capturing benefit sooner within the buildout window, not a means of extending the window.

6.7 Recommend that §2710-verified fuel additives be named as a recognized control measure within the Commercial Harbor Craft compliance and ACE framework

The Commercial Harbor Craft Regulation's operative post-2022 compliance architecture does not enumerate §2710-verified fuel additives as a recognized control measure. Fuel additives appear in the Regulation only in the superseded pre-2023 low-sulfur fuel provision (subsection (e)(1), "Applicable Until December 31, 2022"), in the BACT/DECS definition applicable to certain new ferries (subsection (e)(5)(B)), and implicitly within the ACE catch-all for "any other measures that sufficiently reduce emissions" (subsection (f)(1)(E)). They are not named among the enumerated AECS control strategies, alongside engine modifications, exhaust treatment control, repower,

Comment
14-13

ZEAT, shore power, fleet averaging, and CARB Approved Emission Control Systems. BESI respectfully recommends that South Coast AQMD, in its coordinating role with CARB, support the explicit recognition of §2710-verified fuel additives as a named control measure within the CHC compliance framework and as an enumerated AECS option under subsection (f)(1)(E). Explicit enumeration would give harbor craft operators a clear, recognized pathway to deploy a verified additive — whether as a standalone ACE strategy or in combination with other measures — during the buildout to Phase 2 zero-emission operation, consistent with the ADVANCE framework and the Non-Substitution Principle of Section 4.2.

Comment
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7. Industry Leadership and the Cooperative Agreement Framework

The ADVANCE framework proposed in this letter is offered as a complement to, and an extension of, positions already taken by industry stakeholders in the public record on the Cooperative Agreement. BESI commends the Pacific Merchant Shipping Association (PMSA) and the California Association of Port Authorities (CAPA) for their public support of the cooperative, non-regulatory pathway and their continued engagement throughout the agreement's development.

7.1 Industry coalition support for the cooperative framework

PMSA has publicly supported the cooperative agreement approach as a non-regulatory pathway to infrastructure improvements at the San Pedro Bay Ports. In its February 20, 2025 letter to the South Coast AQMD Board, PMSA stated that it "supports a non-regulatory, collaborative approach through the execution of an enforceable agreement... that will result in the development of infrastructure improvements that are necessary to reach the next generation of air quality improvements at the Ports of Los Angeles and Long Beach." PMSA Vice President Thomas Jelenic has testified on the record in alignment with the principle that "infrastructure development needs to occur before consideration of any further development of an emissions reduction regulatory framework." Following the Governing Board's August 2025 vote to pause PR 2304 in favor of cooperative-agreement negotiation, PMSA publicly cited the Ports' 2005-to-current emission reductions (DPM -91%, NOx -72%, SOx -98%, GHG -20%) and committed to "continuing to work cooperatively with the Air District, Cities, and Ports... to craft an enforceable agreement that maintains the Ports' economic vitality while improving the air for the community."

Comment
14-14

CAPA has similarly supported the cooperative framework as a complement and alternative to prescriptive rulemaking. In its July 31, 2025 letter to the South Coast AQMD Governing Board, CAPA characterized the Cooperative Agreement as a "voluntary, enforceable agreement" between AQMD, POLB, and POLA, and noted that it "goes beyond planning for zero-emissions infrastructure by calling for the accelerated voluntary implementation of six new Clean Air Action Plan (CAAP) Plus Measures." CAPA further observed that these measures "would allow SCAQMD to quantify anticipated emissions reductions, potentially qualifying for State Implementation Plan (SIP) credits." CAPA's letter also emphasized the economic significance of California's ports — collectively handling 38% of all U.S. containerized imports and 28% of exports, with more than 3.1 million American jobs dependent on the cargo that flows through California ports — and the ports' consistent record of advancing "emission reductions strategies that go above and beyond regulatory requirements."

7.2 ADVANCE measures as a natural extension of the industry coalition position

The ADVANCE framework BESI proposes is consistent with, and a natural extension of, the positions PMSA and CAPA have publicly taken. The ADVANCE framework:

- Builds on the CAAP collaboration model that PMSA cites as the source of the 2005-to-current emission reductions, by formalizing a §2710-verified, OEM-cleared, voluntary pathway for additional measures during the buildout to zero-emission infrastructure.
- Aligns with CAPA's SIP-creditable reductions framing by structuring ADVANCE verification to support South Coast AQMD's existing authority under Section II.A.1.e of the Agreement to seek SIP credit for voluntary mobile source measures.
- Preserves the cooperative, non-regulatory character of the Agreement that PMSA, CAPA, the Cities, the Ports, and the District have negotiated. ADVANCE measures are voluntary at the operator level; mandatory elements operate at the source-category-aggregate level as a Cooperative Agreement commitment, with the voluntary pathway giving operators the choice of how to contribute.
- Addresses the credit-pathway dependency that industry stakeholders have identified as the practical condition for voluntary deployment. ADVANCE-V (verification acceleration) and ADVANCE-M (methodology development) together create the credit-pathway clarity that operators require, without which voluntary deployment of verified measures during the buildout window is unlikely to materialize at scale.
- Strengthens the economic vitality framing by providing industry participants with a structured, recognized pathway to deploy near-term measures that deliver air quality benefits at scales the Zero-Emission Infrastructure Plans alone cannot reach during the buildout period.

BESI intends to explore prospects for coordination with PMSA, CAPA, and other industry stakeholders on near-term voluntary measures within the ADVANCE framework. Industry leadership on near-term measures — structured, measurable, voluntary, and verified — is the most credible demonstration that the cooperative framework delivers action, not deferral.

7.3 Addressing concerns about flexibility and delay

Concerns have been raised in the public discourse about the Cooperative Agreement: whether the flexibility the cooperative framework affords could become a mechanism for delaying action rather than enabling it; whether voluntary measures can be a substitute for enforceable rulemaking; and whether infrastructure planning, by itself, will deliver the air quality outcomes the District's mandate requires. These concerns deserve serious engagement. The ADVANCE framework is specifically structured to address them.

The "Accelerated" in ADVANCE is not a rhetorical choice. It is the operational objective of the framework: to bring forward air quality and public health benefits during the buildout period that would otherwise accrue only after operational electrification. By design, ADVANCE compresses the timeline of emission reductions rather than extending it. This is the structural answer to the concern that voluntary measures within a cooperative framework may function as delay.

Comment
14-14,
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Comment
14-15

- **Non-substitution is foundational, not advisory.** Section 4.2 establishes the Non-Substitution Principle as the foundational architectural element of ADVANCE, and Sections 4.4 (date-certain sunset with formal extension mechanism), 4.6 (eligibility), 4.7 (reporting), and 4.8 (Clean Air Mitigation Fund eligibility) operate subject to that principle without exception. ADVANCE-B credit literally cannot accrue beyond the Port-committed operational zero-emission milestone for the source category; extension requires three regulatory bodies (Port Board, AQMD, CARB) to act on documented Section A.3 implementation realities.
- **Flexibility for execution, not for compliance.** ADVANCE measures operate within strict eligibility criteria (Section 4.6): CARB §2710 multimedia analysis verification, OEM technical concurrence, fuel-specification neutrality, third-party verification, structured pilot or deployment protocols, and reporting integrated with the existing Annual Report and Ports Emissions Inventory mechanisms. Flexibility applies to how voluntary measures are deployed within the compliance menu; it does not apply to whether measurable reductions must be achieved.
- **Additive to, not a substitute for, zero-emission infrastructure.** Section 4.7 of this letter explicitly provides that ADVANCE deployments “do not modify, replace, or excuse the planning deadlines, public-process obligations, or enforcement provisions of the Port Zero-Emission Infrastructure Plans under Attachment A.” ADVANCE measures are designed to terminate naturally as each source category transitions to zero-emission operation. They are not, and structurally cannot become, a substitute for the District’s regulatory authority.
- **Measurable, verifiable, and publicly reported.** The ADVANCE eligibility criteria require §2710 multimedia analysis verification (or active fast-track verification under ADVANCE-V), reporting through the annual Ports Emissions Inventory (using the methodology established through ADVANCE-M), and the Attachment A Annual Report, all of which are publicly accessible mechanisms the Agreement already establishes. Verified ADVANCE reductions are subject to the same scrutiny as any other emission-reduction claim in the public record.
- **Accelerates the delivery of near-term benefits during the buildout period.** As documented in Section 3 and Appendix A, the scale of potential public health benefit from ADVANCE measures — conditional on demonstrated efficacy through structured investigation — is in the range of tens to hundreds of premature deaths avoided and hundreds of millions to billions of dollars in monetized public health benefits during the 24-year buildout to the Ports’ 2050 zero-emission goal. The structured framework the ADVANCE proposal establishes is what makes those potential benefits available during the buildout window rather than only after it; without the framework, the buildout period proceeds without the formal mechanism for capturing them.

Industry leadership on voluntary near-term measures — offered through a structured framework with verifiable outcomes — is the strongest available demonstration that the cooperative agreement is not a mechanism for delay. It is, instead, a framework for accelerated action: delivering measurable air quality and public health benefits in the years before infrastructure electrification is operational, while preserving the District’s regulatory authority intact.

Comment
14-15,
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8. Secondary Recommendations

8.1 Inclusion of complementary measures in the Annual Report

BESI recommends that the Annual Report (Attachment A Section G) include a section reporting on any complementary or interim emission-reduction measures deployed during the reporting year, whether or not formally adopted as ADVANCE measures under the framework above.

8.2 Recognition in the Board Resolution

BESI recommends that the September 16, 2025 Board Resolution language be expanded to include:

"WHEREAS the Governing Board recognizes that voluntary interim emission reduction measures, applied to port-related and goods movement mobile sources with appropriate original-equipment-manufacturer concurrence, CARB Title 13, §2710 multimedia analysis verification, and verifiable emission reductions, can contribute to the public health objectives of the 2022 AQMP Control Measures during the period in which zero-emission infrastructure is being planned and constructed; and"

Comment
14-15,
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9. Closing

The Updated Draft Cooperative Agreement is a significant achievement. The recommendations above — and the cumulative public health scenarios presented in Appendix A — are offered in the spirit of strengthening that achievement, by formally connecting the Agreement's infrastructure-planning track to the public health outcomes its recitals invoke during the 24-year buildout to the Ports' 2050 zero-emission goal, and by engaging constructively the CARB §2710 verification framework and Emissions Inventory Technical Working Group methodology processes that are the operative gates for delivery of those outcomes. We would welcome the opportunity to discuss these recommendations with South Coast AQMD staff at the agency's convenience, including any coordination with CARB and the Emissions Inventory Technical Working Group that the recommendations may require.

We thank the District, the Port of Long Beach, and the Port of Los Angeles for the opportunity to participate in this public comment process.

² BESI is in formation as a developer of marine fuel additive technology intended for application to harbor craft auxiliary engines and other port source categories. BESI's principals have a commercial interest in the policy framework that governs voluntary interim emission reduction measures at the San Pedro Bay Ports. We disclose this interest in the interest of transparency. The recommendations contained in this letter are framed as structural additions to the Agreement available to any qualifying measure, not as a request for any treatment specific to BESI or its technology.

APPENDIX A

The Scale of Potential Public Health Benefit from ADVANCE Measures During the Buildout to Zero-Emission Port Operations by 2050

Purpose of This Appendix

This appendix addresses whether widespread use of efficacious and regulatory approved fuel additives used in conjunction with mandated fuels for legacy diesel engines across mobile sources at the San Pedro Bay Ports that would continue to operate during the 24-year transition to zero-emission operations could produce significant incremental public health benefits to warrant consideration as a complement to the ultimate zero emission goal. The analysis presented in this appendix, which applies CARB and other sourced health effects methodologies confirms that such consideration and investigation is warranted. As compiled in the tables shown in this appendix, estimates are presented that moderate to aggressive efforts to engage a fuel additive strategy above the anticipated R99/R100 fuel use could yield a cumulative reduction in 240 -800 premature deaths and cumulative public health savings ranging from \$3 billion to \$10 billion over the implementation period depending on whether moderate to aggressive action is taken.

The framing of this question matters. BESI does not claim that fuel additives or other interim measures will deliver specific reductions in any specific port source application. The appropriate efficacy of any given measure depends on engine type, fuel specification, duty cycle, and other variables that must be characterized through engineering testing and structured pilot deployment, and that — for diesel and analogous fuel categories — must satisfy CARB Title 13, §2710 multimedia analysis verification before the measure can be legally deployed in California. The framing here is also explicitly incremental: the scale-of-benefit estimates below describe potential reductions beyond the regulatory baselines already in force during the buildout window, including the CHC and Off-Road Fleet renewable-diesel mandates that apply to harbor craft and most cargo-handling equipment. What this appendix examines, instead, is the scale of potential benefit that would justify the investigation and verification effort itself.

CARB already recognizes the value of alternative fuels as a means to reduce emissions through their Commercial Harbor Craft Section 2299.5 Rule without additional hardware requirements or engine replacements. CARB-aligned program materials report that renewable diesel (R99/R100) use among all Commercial Harbor Craft (CHC) will deliver approximately a 30% reduction in NOx and a 10% reduction in diesel particulate matter relative to conventional diesel. While renewable diesel is a fuel substitute rather than an additive, the figure is significant because it is a CARB-credited, in-regulation example of a fuel-side change — rather than engine hardware — producing quantified, agency-recognized PM and NOx reductions in the exact harbor craft source category at issue here.

The regulatory treatment of cargo-handling equipment (CHE) at the Ports is structurally different. CARB's CHE Regulation (Cal. Code Regs., tit. 13, §2479) is engine- and fleet-turnover focused and does not itself mandate renewable diesel; the operative R99/R100 requirement for most port CHE comes from a separate authority — CARB's Off-Road In-Use Diesel-Fueled Fleets Regulation — which has applied to off-road diesel equipment generally since January 1, 2024

Comment
14-16

and which captures most CHE categories in practice, though §2479-governed CHE sits in a regulatory carve-out where R99/R100 is not directly locked in.

More substantively, CARB's forward strategy for CHE leaps directly from the existing in-use diesel stock to zero-emission equipment on the most compressed schedule of any port source category. The Cooperative Agreement's Phase 1 Zero-Emission Infrastructure Plans for CHE are scheduled for approval by December 31, 2027, the Clean Air Action Plan targets zero-emission CHE by 2030, and CARB's broader off-road strategy targets 100% zero-emission off-road equipment by approximately 2035. That compressed schedule leaves a narrow but operationally important interval — the years between today and each piece of CHE actually being replaced — during which the legacy diesel CHE stock continues to operate and produce emissions that supplemental fuel-side measures could mitigate.

The Documented Promise of Fuel Additives

A wide body of laboratory testing, field-trial measurement, and peer-reviewed engineering literature demonstrates that fuel additives — across varying engine types, fuel specifications, and operating conditions — can deliver measurable emission reductions through improved combustion efficiency in internal combustion engines even when post-combustion emission control systems are installed.

This body of evidence demonstrates promise, not proof of application-specific efficacy. Documented effects vary by engine type, generation, load condition, fuel formulation, and additive chemistry. Performance in any specific port source application requires validation through laboratory, dynamometer, and field testing. The structured engineering testing, of the kind the Ports' planned Study of Vessel Emissions at Low Speeds (May 14, 2026 public meeting, Slide 15) is designed to conduct is a prime example. In addition, additives must secure No Objection Letters (NOLs) from engine OEMS so that engine warranties are sustained and must complete the rigorous CARB Title 13, §2710 multimedia analysis verification before legal deployment.

Whether a fuel additive manufacturer decides to embark on the rigorous and costly certification process will be determined by having a clear regulatory pathway to ultimate approval in a timely fashion. The inclusion of provisions in the Cooperative Agreement to work with CARB to secure the prospective benefits that additive use can provide over the implementation period is a means to provide incremental relief to the communities adjacent to the ports.

The Scale of the Underlying Public Health Stakes

AQMD has, in Recital I.A.4 of the Updated Draft Cooperative Agreement, published the following annual public health figures at full implementation of the 2022 AQMP Control Measures: 1,500 premature deaths avoided annually, 1,500 emergency department visits avoided, 8,700 hospital admissions avoided, 96,000 school days and 66,000 workdays preserved, and \$19.4 billion in monetized public health costs avoided each year. These are basin-wide figures reflecting all 2022 AQMP Control Measures, not port source measures alone. Port source emissions represent a meaningful but not exhaustive share of the regional total.

Comment
14-16,
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Joint Recital I.C.7 further acknowledges that “even if all sources regulated by CARB and South Coast AQMD were zero emissions, federal sources alone would emit substantially more than the 60 tons per day NOx limit, thwarting any other actions to meet the standard.”

The Port of Los Angeles 2024 Air Emissions Inventory (released October 16, 2025) reports that NOx emissions remained flat year-over-year at 2023 levels despite a 19% increase in container volume; DPM and SOx increased modestly. The straightforward reductions from the 2005-to-2023 period (DPM -91%, NOx -72%, SOx -98%) have largely been captured; further reductions during the buildout period will require new approaches.

An independent emissions analysis prepared by Ramboll (June 27, 2024), examining the San Pedro Bay Ports NOx trajectory under regulatory and reasonable business-as-usual scenarios, reinforces this picture. Under the Regulatory BAU scenario, total port-source NOx declines from 31 TPD in 2022 to 23 TPD in 2031 and 21 TPD in 2037 — a 32% reduction across the 15-year window compared with the 70% reduction (105 → 31 TPD) achieved over the prior 17 years. Of the 21 TPD remaining at 2037, ocean-going vessels (combining at-berth and in-transit modes) constitute approximately 90% of the total — making OGV emissions the dominant remaining mass within the port-source inventory by the late 2030s. The Ramboll analysis additionally finds that the addition of the Proposed CHE Rule to the Regulatory BAU baseline reduces 2037 totals by only approximately 1 TPD (21 → 20 TPD).

Both Port of Long Beach and Port of Los Angeles target zero-emission operations by 2050. Existing Clean Air Action Plan intermediate targets are zero-emission cargo-handling equipment by 2030 and zero-emission drayage trucks by 2035. The Cooperative Agreement’s phased Zero-Emission Infrastructure Plans schedule Phase 1 (CHE and drayage) for approval by December 31, 2027; Phase 2 (harbor craft) by December 31, 2028; Phase 3 (OGVs) by December 31, 2029. The 24-year window from 2026 through 2049 — the buildout period before the Ports’ 2050 zero-emission goal — is the period during which port source equipment will continue to operate on liquid fuels and produce emissions.

Scenarios for the Scale of Potential Benefit

The scenarios below examine the cumulative scale of potential public health benefit during the 2026–2049 buildout window. The analysis is constructed year by year across the buildout window rather than as a single steady-state estimate: it applies each scenario’s coverage and efficacy parameters to a declining port-source NOx and PM trajectory, with a five-year deployment ramp, and sums the resulting annual benefits across the 24 years. It is parameterized by two dimensions: (1) the breadth of port source equipment coverage and participation, resolved across the individual port source categories below, and (2) the demonstrated per-engine efficacy of interim measures at the relevant operating points, expressed as paired NOx and PM reduction levels.

Source-category basis (mass-weighted, At Berth excluded). The emissions basis is resolved across five in-scope port source categories, with category shares mass-weighted across the buildout trajectory using the Ramboll (June 27, 2024) Regulatory BAU scenario. The OGV At Berth (hoteling) category is excluded because at-berth emissions are addressed by the CARB

Comment
14-16,
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BESI Appendix A — Scale of Potential Public Health Benefit — May 29, 2026

2020 At-Berth Regulation and at-berth vessels are increasingly served by shore power. The harbor craft (CHC) category is governed by CARB's Commercial Harbor Craft Regulation (Cal. Code Regs., tit. 17, § 93118.5), which the U.S. EPA partially authorized in January 2025 (90 Fed. Reg. 1,998) and which CARB is actively implementing. The Regulation establishes an in-force compliance obligation across the buildout window and, in its Alternative Control of Emissions (ACE) provision, an existing voluntary alternative-strategy pathway evaluated on a cumulative PM-and-NOx basis over a 2023–2034 window — the regulatory context within which an ADVANCE measure applied to this category would operate. The five in-scope categories and their buildout-average NOx shares are: OGV In Transit ~61.5%; harbor craft (CHC) ~5.3%; HDV (drayage) ~8.6%; locomotive ~6.2%; CHE ~3.3%.

Incremental-to-baseline framing. The emissions trajectory anchored above reflects the Ramboll (June 27, 2024) Regulatory Business-As-Usual scenario, with 2031 and 2037 anchor points that post-date the January 1, 2023 CHC renewable-diesel mandate and the January 1, 2024 Off-Road In-Use Diesel-Fueled Fleets R99/R100 requirement. The residual NOx and PM that the trajectory carries from 2026 onward therefore represents the emissions burden that remains after R99/R100 is already in effect across harbor craft and across the off-road CHE population captured by the Off-Road Fleets Regulation. (As noted in the Purpose section, §2479-governed CHE sits in a regulatory carve-out where R99/R100 is not directly locked in, but the great majority of port CHE is captured in practice by the Off-Road Fleets Regulation.) The scale-of-benefit framework below applies ADVANCE efficacy parameters to that residual mass; the resulting figures reflect benefit that would be incremental to the CARB-mandated R99/R100 baseline, not double-counted with it. This framing is consistent with CARB's express position that R99/R100 is a mandatory baseline fuel and cannot be claimed as an Alternative Control of Emissions strategy — the regulatory pathway available to a supplemental fuel-side measure is one of demonstrating reductions beyond that baseline.

Per-engine efficacy dimension (paired NOx / PM). Independently verified per-engine NOx reductions in the relevant literature cluster in the 5–20% range, while per-engine PM reductions span a wider 20–50%+ range for the additive alone. The matrices below pair four efficacy levels: Conservative (NOx 10% / PM 20%); Central (NOx 20% / PM 30%); High (NOx 30% / PM 40%, theoretical upper-bound, not yet regulator-verified); Upper (NOx 40% / PM 50%, theoretical upper-bound, not yet regulator-verified).

Scale of Potential Cumulative Public Health Benefit, 2026–2049

The matrices below show the cumulative public health potential during the 24-year buildout window under combinations of coverage and paired NOx/PM efficacy, built up year by year from the declining emissions trajectory and the five-year deployment ramp. These are ranges of potential benefit conditional on demonstrated efficacy at the indicated paired levels — not projections of expected outcome.

Premature deaths potentially avoided, cumulative 2026–2049:

Coverage \ Paired efficacy	Conservative (10/20)	Central (20/30)	High (30/40)	Upper (40/50)
Limited (~7.5%)	~53	~88	~123	~158

Comment
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Coverage \ Paired efficacy	Conservative (10/20)	Central (20/30)	High (30/40)	Upper (40/50)
Moderate (~20%)	~142	~238	~333	~428
Broad (~38%)	~263	~439	~615	~790

Hospital admissions potentially avoided, cumulative 2026–2049:

Coverage \ Paired efficacy	Conservative (10/20)	Central (20/30)	High (30/40)	Upper (40/50)
Limited (~7.5%)	~306	~510	~714	~919
Moderate (~20%)	~826	~1,379	~1,931	~2,483
Broad (~38%)	~1,525	~2,545	~3,564	~4,584

Monetized public health benefits, cumulative 2026–2049 (\$ millions):

Coverage \ Paired efficacy	Conservative (10/20)	Central (20/30)	High (30/40)	Upper (40/50)
Limited (~7.5%)	~\$682M	~\$1,137M	~\$1,593M	~\$2,049M
Moderate (~20%)	~\$1,842M	~\$3,074M	~\$4,306M	~\$5,537M
Broad (~38%)	~\$3,401M	~\$5,675M	~\$7,948M	~\$10,222M

Reading the matrices. Read conservatively, the framework indicates a cumulative potential of approximately 53 avoided premature deaths and roughly \$680 million in monetized public-health benefit at the low end (Limited coverage; Conservative efficacy, matching the central tendency of verified additive performance), rising to approximately 238 avoided premature deaths and ~\$3.1 billion under mid-range assumptions (Moderate coverage; Central efficacy). The High and Upper paired-efficacy levels, shown in the matrices for completeness, are theoretical upper bounds not yet demonstrated in regulator-verified deployment, reaching approximately 615 to 790 avoided deaths and \$7.9 to \$10.2 billion at Broad coverage; they should be read as sensitivity illustration rather than expected outcome. The matrix cells are presented at full computed precision so the reader can trace the derivation of the summary figures; that precision reflects arithmetic consistency, not modeling certainty, as the sensitivity discussion below makes explicit.

Sensitivity and uncertainty. These figures are the product of several individually-uncertain parameters multiplied together, and their combined uncertainty is correspondingly wide. Three parameters drive the result most strongly. First, per-engine additive efficacy: the entire output scales with the assumed paired NOx/PM reduction, which is not yet regulator-verified for any port source application and is precisely what the recommended Study of Vessel Emissions at Low Speeds and CARB §2710 verification are designed to determine. Second, the share of AQMD's basin-wide public-health figures attributable to port sources, here held at a conservative 15 percent. Third, the coverage parameters (participation and applicability by source category). A reader should treat the matrix values not as point predictions but as the scale that emerges under each stated combination of assumptions; the figure for any actual deployment depends on efficacy and participation that only structured investigation can establish. The purpose of the estimate is to demonstrate that the magnitude of potential benefit is large enough to warrant that investigation — not to forecast a specific outcome.

Comment
14-16,
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An Independent Regional Cross-Check: CARB's Own Harbor Craft Health Analysis

This cross-check is offered for one source category only — harbor craft — where CARB has published a region-specific health estimate that permits direct comparison. It is presented to corroborate the order-of-magnitude scale of the framework above and is expressly not a representation that any category's interim potential equals the full-implementation benefit CARB models for that category, nor a category-by-category reconciliation with CARB's other source-category rulemakings. The other four port source categories in this appendix's framework are governed by their own distinct regulatory trajectories and are not the subject of this cross-check.

With that limitation stated, the scale estimates above can be cross-checked against an authoritative independent source in this one category. In its Initial Statement of Reasons for the 2022 Commercial Harbor Craft Regulation amendments, CARB conducted a full health-benefits analysis using the U.S. EPA PM_{2.5} mortality methodology and value-of-statistical-life valuation — the same methodological foundation underlying the AQMD public health figures this appendix is anchored to. CARB estimated that the harbor craft amendments would avoid 531 premature deaths statewide, cumulatively over the 2023–2038 analysis period, and reported a per-air-basin breakdown (ISOR Table IX-11). For the South Coast Air Basin specifically, CARB estimated 295 avoided cardiopulmonary mortality cases (95% confidence interval 230–360), 42 avoided cardiovascular hospitalizations, 50 avoided respiratory hospitalizations, and 128 avoided asthma emergency room visits, cumulatively over 2023–2038. CARB further estimated that the amendments would reduce South Coast CHC diesel particulate matter emissions by approximately 89–90% by 2038.

Two features of this independent figure bear on the present analysis. First, it confirms the magnitude premise from a second authoritative source, in the same region and on the same mortality methodology: CARB's own analysis establishes that the public-health value of fully cleaning up South Coast harbor craft is on the order of 295 avoided premature deaths over the period. That this single category — among the smaller contributors by NO_x mass in the framework above — carries a regional stake of nearly 300 avoided deaths is consistent with the order-of-magnitude scale the matrices develop. CARB's 295-death endpoint figure also incorporates the R99/R100 mandate as part of the full-implementation regulatory package, so the comparison here is properly between two post-R99 quantities: CARB's full-implementation endpoint benefit (post-R99, post-Tier-turnover) versus the appendix's buildout-window benefit (post-R99, during the multi-year interval before each vessel's Tier conversion is complete).

Second, and more important, the CARB figure is an endpoint estimate, not a buildout-window estimate. The 295 South Coast avoided deaths are the benefit of the harbor craft fleet reaching the regulation's full-implementation endpoint — the Tier 3-plus-DPF and Tier 4-plus-DPF engine standards and zero-emission/advanced-technology conversion that produce the ~89% DPM reduction CARB models for 2038. That benefit presumes the converted fleet. It says nothing about the emissions that persist during the multi-year interval between the regulation's adoption and each vessel's actual conversion — an interval the regulation's own feasibility-extension provisions (including E3 extensions and the ten-year commercial-passenger-fishing-vessel extension running to December 31, 2034) explicitly contemplate. The ADVANCE framework operates in that interval. It does not seek to capture or substitute for the 295-death endpoint benefit; it seeks to

Comment
14-16,
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bring forward a fraction of public-health benefit in the buildout years before that endpoint is operational. CARB's 295-death figure therefore functions here as a validating reference and a ceiling on the category's stake — confirming that the harbor craft category is worth a structured interim effort during the buildout — rather than as a quantity any interim measure is represented as matching.

Where the Residual Harbor-Craft Burden Is Concentrated: The Legacy-Engine Segment

A second consideration shapes how the appendix's coverage parameters should be read in the harbor craft category specifically. The CHC Regulation operates through a combination of fleet-wide R99/R100 mandate and tiered engine-standard requirements that drive turnover from Tier 0/1/2 toward Tier 3/4-plus-DPF over time. As a structural consequence, the residual NOx and PM remaining in the harbor craft category during the buildout window is concentrated disproportionately in the legacy engine segment — the Pre-Tier 1 through Tier 2 engines that have not yet been replaced, repowered, or retrofitted under the CHC Regulation's feasibility-extension provisions (including the E3 extension and the ten-year commercial-passenger-fishing-vessel extension running through December 31, 2034).

Publicly available CARB and San Pedro Bay Ports materials do not appear to publish a single official emissions-weighted engine-tier distribution for harbor craft at the Ports of Los Angeles and Long Beach, and CARB's public reported-vessel resource expressly states that the reported list is not exhaustive and does not indicate compliance with the Regulation. The public record nevertheless supports two structural conclusions: first, that most harbor craft continue to use older engine technology such as Tier 2 engines; second, that the San Pedro Bay Ports' 2022 emissions inventory presentation notes a growing number of Tier 3 vessels. Taken together, these statements support a fleet that remains legacy-heavy and Tier-2-dominant, in transition toward newer tiers rather than already dominated by Tier 3 or Tier 4 engines.

The practical relevance for the appendix is twofold. First, the per-engine efficacy levels presented in the matrices above reflect the operating envelope where supplemental fuel-side measures deliver their largest incremental benefit relative to R99/R100 alone — engines without advanced aftertreatment, where fuel chemistry retains meaningful influence on combustion completeness and post-combustion exhaust constituents. Second, the harbor craft coverage and participation parameters in the framework should be understood as a proxy for deployment concentrated on this legacy-engine segment, where R99/R100 alone provides the smallest incremental benefit and where supplemental measures consequently have the most room to operate. The scenarios above therefore do not double-count R99/R100 benefits; they describe potential benefit in precisely the engine segment where R99/R100's marginal effect is most limited.

Why Reductions During the Buildout Matter Disproportionately

A potential objection to the framing above is that the San Pedro Bay Ports have already achieved substantial reductions (DPM -91%, NOx -72%, SOx -98% from 2005 levels), and that further marginal reductions from current low concentrations should carry proportionally smaller public health benefit. The peer-reviewed dose-response literature on PM2.5 mortality indicates the opposite.

Comment
14-16,
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Large-cohort studies, including the 53-million-person Medicare cohort study published in *Environmental Health* (Shi et al., 2020), have found that the PM_{2.5} mortality exposure-response function is sub-linear at higher concentrations — meaning that each additional $\mu\text{g}/\text{m}^3$ reduction at lower concentrations delivers proportionally greater mortality benefit than reductions at higher concentrations. The study found no evidence of a threshold below which PM_{2.5} ceases to harm. Subsequent work (Weichenthal et al., 2017) on the joint role of oxidant gases (O₃, NO₂) in modifying the PM_{2.5}-mortality relationship further supports that reductions in port source NO_x — the precursor to both ozone and PM_{2.5}, as Recital I.A.3 of the Agreement acknowledges — carry compounding public health value.

The implication is that the Ports' historic emission reductions, far from making further reductions less valuable, have brought concentrations into a range where each additional unit of reduction is more consequential for public health. Interim measures applied during the 2026–2049 buildout would operate on the steeper portion of the dose-response curve.

Aligned Recommendations from the UCLA / UC Berkeley Convening

The 2023 report *How to Get to Zero Emissions at the Ports*, produced by UCLA School of Law's Emmett Institute on Climate Change and the Environment and UC Berkeley School of Law's Center for Law, Energy & the Environment, identified the gap between Plan approval and operational electrification as a central challenge for the San Pedro Bay Ports. Its recommendations included proactive deployment of “no regret” interim infrastructure investments, coordination between the Ports and utilities on grid capacity, and the use of South Coast AQMD's existing authority to recognize and incentivize complementary measures during the transition. The ADVANCE framework proposed in BESI's primary letter, and the potential explored in this appendix, are consistent with that framing.

Closing Observations

The case this appendix makes is structural, not predictive. BESI does not claim that fuel additives or other interim measures will deliver specific reductions in any specific port source application. What BESI maintains is the following:

- A documented body of laboratory, field, and peer-reviewed evidence — including independent verification under CARB Title 13, CCR §2710 for certain alternative diesel fuel formulations, EPA recognition of cetane improvers as a validated emission-reduction technology category, and independent maritime classification society verification of marine combustion improvers — demonstrates that fuel additives and combustion enhancements can deliver measurable emission reductions across varying engine types, fuel specifications, and operating conditions. Verified per-engine NO_x reductions cluster in the 5–20% range; verified per-engine PM reductions cluster in the 20–50% range; PM reductions in excess of 95% are documented when fuel-borne catalysts are combined with diesel particulate filter aftertreatment.
- The 24-year buildout to the Ports' 2050 zero-emission goal is a window during which port source equipment will continue to operate on conventional liquid fuels, and during which

Comment
14-16,
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infrastructure planning alone cannot deliver the public health outcomes AQMD's own figures contemplate.

- Even modest demonstrated efficacy, applied at modest port source equipment participation, yields cumulative public health potential in the tens to hundreds of premature deaths avoided and hundreds of millions to billions of dollars over the buildout period.
- For the harbor craft category specifically, the in-force Commercial Harbor Craft Regulation establishes both a mandatory R99/R100 baseline fuel condition and tiered engine-standard requirements driving fleet turnover. Because CARB has expressly stated that R99/R100 cannot itself be claimed as an Alternative Control of Emissions (ACE) strategy, the regulatory pathway available to a supplemental fuel-side measure is one of demonstrating reductions incremental to that baseline — precisely the framing this appendix's scenarios are constructed under. The residual emissions burden in the harbor craft category during the buildout window is structurally concentrated in legacy Pre-Tier through Tier 2 engines, where R99/R100's marginal effect is smallest and where a §2710-verified supplemental measure consequently has the most room to operate.
- The three-track ADVANCE framework proposed in the main letter — ADVANCE-V (Verification Acceleration), ADVANCE-B (Buildout Bridge Recognition), and ADVANCE-M (Methodology) — is the structured, voluntary, OEM-cleared, §2710-verified, time-bounded mechanism through which such investigation and deployment can be pursued without delaying, weakening, or substituting for the Cooperative Agreement's Zero-Emission Infrastructure Plan obligations.

The choice the District faces is not whether ADVANCE measures will deliver guaranteed reductions — that is what structured investigation and §2710 multimedia analysis verification are designed to determine. The choice is whether to create the formal framework within which such investigation and verification can accelerate the delivery of verifiable air quality and public health benefits during the buildout window, or to forgo that potential benefit and wait until operational electrification to capture it. The scale of potential benefit, measured against AQMD's own published figures, warrants creating the framework.

Regional cross-check source: California Air Resources Board, Proposed Amendments to the Commercial Harbor Craft Regulation, Staff Report: Initial Statement of Reasons (Sept. 21, 2021), Table IX-11 (per-air-basin reductions in health outcomes, 2023–2038) and Table V-2 (South Coast and San Francisco Bay Area CHC DPM emission reductions by implementation year). Statewide and South Coast figures cited are CARB estimates over the 2023–2038 analysis period.

Comment
14-16,
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APPENDIX B

The Vessel Speed Reduction Use Case for Fuel Additives: Technical Analysis of Ocean-Going Vessel Propulsion and Auxiliary Engine Operating Conditions Within the San Pedro Bay VSR Zone

Purpose of This Appendix

This appendix accompanies the primary public comment submission by Biotech Energy Solutions, Inc. and supports Section 6.5 of that letter. It provides the technical basis for the recommendation that the Ports' planned Study of Vessel Emissions at Low Speeds, identified as an ongoing commitment outside of the Cooperative Agreement at the May 14, 2026 public meeting (Slide 15), be expanded to include fuel additive application. The technical case is grounded in published marine engine performance curves, peer-reviewed real-world emissions measurements, and the Ports' own VSR program data.

The central technical argument is this: **the Vessel Speed Reduction Program requires ocean-going vessel propulsion engines to operate in a regime where both specific fuel consumption and specific NOx emissions are at their highest per unit of work performed.** A wide body of laboratory and field testing has shown promise that fuel additives can deliver measurable emission reductions at part-load operating points across varying engine types and fuel specifications. The VSR program and the additive class are therefore complementary in their target regimes, and a properly designed study of low-speed emissions with additive application would characterize whether the air quality benefits of VSR can be enhanced — or, alternatively, whether comparable air quality benefits can be achieved while permitting more conventional operating speeds within the VSR zone. The case below is structural: it does not assume specific application-level efficacy, but identifies where the demonstrated promise of the additive class warrants targeted investigation under the CARB Title 13, §2710 verification framework engaged through ADVANCE-V (Section 4.3 of the main letter).

Comment
14-16,
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1. The VSR Program and the Operating Regime It Creates

The Vessel Speed Reduction Program established by the Ports of Los Angeles and Long Beach (in cooperation with U.S. EPA, CARB, South Coast AQMD, and industry parties via the 2001 MOU) requests ocean-going vessels to voluntarily reduce their speed to **12 knots within 20 nautical miles of Point Fermin**, extended to **40 nautical miles in 2008**. The Port of Los Angeles reports 90% compliance at the 20 nm boundary in 2022 across 172 companies and 1,560 vessel calls, with associated reductions of 66 tons of DPM, 749 tons of NOx, 575 tons of SOx, and 31,000 tons of CO2 from the Port of Los Angeles alone.

The VSR program is well-designed and produces real emission reductions. The technical question this appendix addresses is whether those reductions can be substantially enhanced — or whether equivalent reductions can be achieved with less operational disruption to maritime commerce — by combining VSR compliance with fuel additive application.

A note on the policy-relevant metric: throughout this appendix the relevant measure of air quality impact is **emissions per nautical mile traveled through the VSR zone** (interchangeably expressed as "per transit" given the fixed 20- or 40-nautical-mile zone width). This is the metric that determines pollutant mass entering the airshed adjacent to port communities during each vessel transit, and it is the metric used in the Ports' annual emissions inventories and EPA Port Emissions Inventory Guidance. Specific fuel consumption (SFC, in g/kWh) and per-kWh emission factors are intermediate engine-performance metrics that contribute to the per-nautical-mile result but do not, on their own, determine air quality outcomes.

2. Ocean-Going Vessel Propulsion Engines Are Designed for High-Load Operation

Large container vessels — the dominant call-type at POLA and POLB — are designed for service speeds typically in the range of 20 to 25 knots, with most commonly around 24 knots; their hulls and propulsion plants are matched to operate most efficiently at approximately 85% to 90% of Maximum Continuous Rating (MCR). Engine specific fuel consumption (SFC), expressed in grams of fuel per kilowatt-hour, is at its lowest within this load band. Outside this band — particularly at low loads — SFC increases significantly. Documented engine performance curves indicate that SFC increases greatly at approximately 30% of maximum power and dramatically at idle, where SFC can double relative to the optimal load point.

The relationship between ship speed and required engine power follows the Propeller Law for hull frictional resistance, in which the load factor (engine power required at a given ship speed, relative to design speed) is approximated by the cubed ratio of ship speed to design speed. Application of this relationship to a representative container ship designed for 24 knots, operating at the VSR-compliant 12 knots:

Load fraction $\approx (12 / 24)^3 \approx 0.125$, i.e., approximately 12.5% MCR

This calculation places the propulsion engine of a 24-knot-design container vessel complying with the VSR program squarely within the low-load regime in which specific fuel consumption rises sharply — between the 30% Pmax band where SFC begins to increase substantially and the 7% Pmax idle condition where SFC approximately doubles. The Wärtsilä-documented illustration that reducing speed from 27 to 18 knots reduces fuel consumption by 59% reflects the lower energy demand of slower travel; it does not, however, reflect that the per-kWh fuel intensity of the engine producing that power is materially worse than at the design point.

Vessels of other design speeds reach different VSR-compliant load fractions. A 22-knot-design vessel at 12 knots operates at approximately $(12/22)^3 \approx 16\%$ MCR. A 25-knot-design vessel reaches approximately $(12/25)^3 \approx 11\%$ MCR. Across the relevant range of container vessel design speeds, the VSR-compliant operating point is consistently in the 10–20% MCR band — low enough that elevated SFC and elevated NOx emission factors are documented features of the operating regime.

3. NOx Emission Factors Rise at Low Load: The Peer-Reviewed Evidence

Comment
14-16,
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3.1 ICCT Working Paper 2023-20

The International Council on Clean Transportation's 2023 Working Paper, Real-World NO_x Emissions from Ships and Implications for Future Regulations, used high-resolution AIS and ship-traffic data to compute real-world NO_x emissions. The paper found a mean main engine NO_x emission rate of 8.1 g/kWh at loads above 75%, with materially higher rates at lower loads. The paper documented that ships typically operate at loads lower than the certification cycle assumes, that emission rates at low loads exceed the IMO certification limits applicable at the engine's build date, and that observed engines emit roughly 14% more NO_x than their certification implies.

The ICCT paper identified the "low-load problem" as a known feature of how IMO's certification methodology and weighted-average testing fail to capture in-service emissions performance, particularly for slow-speed two-stroke main engines that dominate large container ships.

3.2 Explicit ApS (AQMD Contract No. 21222)

A study commissioned by South Coast AQMD under Contract No. 21222, conducted by Explicit ApS and titled Real Sailing Emissions Data, documented observed NO_x emission factors above 15 g/kWh at lower speed ratios. The study noted that the IMO certification weighted-average method permits a 20% reduction at the highest load point to coincide with an 80% increase at the lowest load point — the weighting asymmetry. The study's Tier II vessel characterization showed an average across loads of 14.2 g/kWh, illustrating that the lowest-load emissions disproportionately drive in-service performance.

3.3 Wang et al. (Journal of the Air & Waste Management Association, 2017)

A peer-reviewed analysis published in the Journal of the Air & Waste Management Association in 2017, by Wang et al., titled NO_x emission calculations for bulk carriers by using engine power probabilities as weighting factors, developed a probability-weighted approach to bulk carrier NO_x calculation that captured the real-world emission factor distribution of slow-speed two-stroke main engines during slow steaming. The study found that the in-service NO_x emission factor effect of slow steaming increases with main engine rated power, and that conventional certification-based emission calculations systematically underestimate emissions during slow steaming.

4. Illustrative Arithmetic: The NO_x Penalty in the VSR Operating Regime

Combining the engine performance evidence above with the cubed-Propeller Law load calculation yields the following illustrative arithmetic for a representative 24-knot-design container vessel transiting the VSR zone:

VSR-compliant transit: vessel operates at 12 knots within 20 nm of Point Fermin (extended to 40 nm in 2008). Propulsion engine load $\approx$ 12.5% MCR. Per the Explicit ApS observations, the NO_x emission factor at this load is approximately 1.8 $\times$ to 2 $\times$ the rate at the engine's design point ($\sim$ 85% MCR). For an engine with design-point NO_x of 8.1 g/kWh (ICCT 2023 mean for engines above 75% load), this implies an observed VSR-compliant operating point NO_x emission factor in the range of 14.5–16 g/kWh — consistent with the Explicit ApS observations.

Comment
14-16,
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Implication for per-nautical-mile emissions: at the lower transit speed, the vessel covers each nautical mile at a slower pace, increasing transit time per mile. The energy required per nautical mile follows the cubed relationship as well — at 12 knots, propulsion energy required per nautical mile is approximately 25% of the 24-knot requirement under Propeller Law. The resulting per-nautical-mile NOx mass is approximately $(0.25 \times 1.8\text{--}2.0) = 0.45\text{--}0.50$, i.e., roughly half the per-nautical-mile NOx of a 24-knot transit. **This is the air quality benefit of VSR — substantial, but not as large as the apparent fuel-consumption reduction would suggest, because the elevated per-kWh emission factor partially offsets the reduced energy demand.**

Where the fuel additive opportunity lies: a per-engine NOx reduction in the 10–20% range at the 12.5% MCR operating point — well within the documented range for additive effects across various engine and fuel combinations — translates directly to a 10–20% reduction in per-nautical-mile NOx mass during VSR-compliant transit, on top of the VSR baseline benefit. Such a reduction would have to be verified through structured testing and CARB §2710 multimedia analysis under ADVANCE-V; the arithmetic is illustrative.

Or, alternatively: at additive-treated speeds slightly above the 12-knot VSR threshold (e.g., 14–16 knots), the elevated per-kWh emission factor partially recovers but is offset by the additive’s per-kWh NOx reduction. The trade-space between speed and additive use is one of the parameters the Study of Vessel Emissions at Low Speeds is uniquely positioned to characterize. If equivalent per-nautical-mile NOx mass can be achieved at 14–16 knots with additive application, the operational benefit to shipping companies (faster transit, reduced schedule disruption) accrues without compromising the air quality outcome — a true Pareto improvement.

5. Auxiliary Engines: A Second Pillar of Opportunity

Ocean-going vessels operate three to seven auxiliary engines in addition to their main propulsion engine, typically medium-speed four-stroke diesels. Auxiliary engines run continuously except when the ship is on shore power during hoteling, providing electrical power for ship-board systems including cargo handling, navigation, communications, and crew accommodations. Per EPA Port Emissions Inventory Guidance Table 3-4, container ship auxiliary engine load factors are:

Operating mode	Load factor
Cruise	0.13
Within the Reduced Speed Zone (RSZ / VSR zone)	0.25
Maneuver	0.50
Hotel (at berth)	0.17

Auxiliary engines therefore represent a continuous NOx and DPM source across the entire VSR transit, in addition to the main engine. The cumulative emissions footprint of three to seven auxiliaries running across the cruise, RSZ, maneuver, and hotel modes is substantial — and unlike the main engine, the auxiliary engines do not become more efficient at lower vessel speeds, because they are responding to ship-board electrical demand that is largely independent of propulsion power.

Comment
14-16,
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The Wärtsilä 20 and Wärtsilä 32 medium-speed engine families — common OGV auxiliary configurations — have established No Objection Letter pathways through Wärtsilä Services for fuel-related modifications on Marine Gas Oil and Marine Diesel Oil operation, providing a technically well-defined entry point for additive characterization. Khan et al. documented that on a fleet of three auxiliary engines, HFO-to-MDO fuel switching produced NO_x reductions of 21–41% at 50% load on one of three engines tested, illustrating the substantial sensitivity of auxiliary engine NO_x to fuel composition changes.

6. Why This Matters for the Cooperative Agreement and the Path to 2050

Ocean-going vessels are scheduled for Phase 3 of the Zero-Emission Infrastructure Plans under Attachment A of the Updated Draft Cooperative Agreement, with Plan approval no later than December 31, 2029 and operational electrification subsequent to that date and not subject to any deadline under the Agreement. Recital I.B.3.b reports a 72% reduction in NO_x from port sources between 2005 and 2023; the Port of Los Angeles 2024 Air Emissions Inventory (released October 16, 2025) reports that NO_x remained flat at its 2023 level despite a 19% increase in container volume. The remaining NO_x is the difficult fraction. The conventional control technologies that delivered the 2005–2023 reductions — cleaner engine standards, shore power, fuel switching to distillates, the VSR program itself — have largely been deployed.

The technical opportunity that fuel additives address is the part-load operating regime that VSR creates and that shore power does not cover. Shore power addresses hoteling at berth. VSR addresses the approach and departure transit. Neither addresses the auxiliary engines operating constantly during the RSZ transit, nor the main propulsion engine operating at 10–20% MCR with elevated NO_x emission factors during VSR compliance. This is the gap that the recommended additive-inclusive Study of Vessel Emissions at Low Speeds would characterize, and that the proposed three-track ADVANCE framework (Section 4 of the primary letter) — ADVANCE-V (Verification Acceleration), ADVANCE-B (Buildout Bridge Recognition), and ADVANCE-M (Methodology) — would operationalize through the regulatory architecture required for verified deployment during the buildout window.

For the harbor craft category — which, like OGV auxiliaries, operates medium-speed diesel engines well-suited to additive characterization — the regulatory pathway is already partially in place: CARB's Commercial Harbor Craft Regulation includes an Alternative Control of Emissions mechanism under which a §2710-verified additive can be advanced as a voluntary alternative strategy, reinforcing that the deployment architecture ADVANCE contemplates builds on existing California regulatory protocol rather than inventing a new one.

7. Recommended Scope for the Study of Vessel Emissions at Low Speeds

BESI respectfully recommends that the Study of Vessel Emissions at Low Speeds, as identified by the Ports at the May 14, 2026 public meeting, include the following technical scope. Mechanics are appropriately defined by the Ports in coordination with South Coast AQMD and the Emissions Inventory Technical Working Group (the methodology body engaged through ADVANCE-M of the main letter); the items below are offered as input to that scoping:

Comment
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- Measurement of propulsion engine NO_x, DPM, CO, and HC emission factors across the load band corresponding to the VSR-compliant speed range (10–20% MCR) for representative container ship engine generations (IMO Tier I, Tier II, and Tier III).
- Measurement of auxiliary engine emission factors across the RSZ, Maneuver, and Hotel load factors specified in EPA Port Emissions Inventory Guidance Table 3-4, for the Wärtsilä 20 and Wärtsilä 32 engine families and other common OGV auxiliary configurations.
- Comparative measurement with and without fuel additive application, on otherwise identical engines, fuel specifications, and operating conditions, to characterize the magnitude and consistency of the additive effect. Study findings would support — and are supported by — CARB Title 13, §2710 multimedia analysis verification for the additive formulations evaluated, with such verification a precondition for legal deployment in California under ADVANCE-V (Section 4.3 of the main letter).
- Characterization of the trade-space between VSR speed and additive use: at what additive-treated speeds within the VSR zone is the total per-nautical-mile NO_x reduction equivalent to, or greater than, the current 12-knot baseline?
- Documentation of fuel-specification neutrality per ISO 8217 and ASTM D975, in coordination with the relevant Original Equipment Manufacturers and through established No Objection Letter pathways.
- Public reporting of the study findings, integrated with the Ports' annual emissions inventory framework under the methodology developed through ADVANCE-M (the Emissions Inventory Technical Working Group process described in Section 4.5 of the main letter) and made available to South Coast AQMD for consideration under Section II.A.1.e (SIP credit for voluntary mobile source measures) of the Cooperative Agreement.

Comment
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The desired outcome: a peer-reviewable engineering basis for determining whether the air quality goals of the VSR program can be enhanced — or equivalently maintained at higher operating speeds — through the targeted use of CARB §2710-verified fuel additives at the propulsion and auxiliary engine operating points the VSR zone creates. Study findings would inform both the §2710 multimedia analysis verification effort that ADVANCE-V seeks to accelerate, and the Emissions Inventory Technical Working Group methodology development under ADVANCE-M. If the technical findings demonstrate the additive effect, the resulting public health and operational benefits during the 24-year buildout to the Ports' 2050 zero-emission goal are substantial — and would be recognized in the annual Ports Emissions Inventory under ADVANCE-M methodology, qualify as a voluntary compliance pathway under ADVANCE-B during the buildout window, and sunset automatically as each source category transitions to zero-emission operation per the date-certain sunset architecture of Section 4.4 of the main letter.

Citations

1 Vessel Speed Reduction Program Memorandum of Understanding, May 2001, between the Ports of Los Angeles and Long Beach, U.S. EPA Region 9, California Air Resources Board, South Coast Air Quality Management District, Pacific Merchant Shipping Association, and Marine Exchange of Southern California. Zone extended from 20 nm to 40 nm in 2008.

2 Port of Los Angeles, Vessel Speed Reduction Program 2022 reporting: 172 companies, 1,560 calls at 90% compliance within 20 nm of Point Fermin; 66 tons DPM, 749 tons NO_x, 575 tons SO_x, 31,000 tons CO₂ reduced.

BESI Appendix B — Vessel Speed Reduction Use Case for Fuel Additives — [SUBMISSION DATE TBD]

3 J.-P. Rodrigue, The Geography of Transport Systems, container ship speed classes and design-load characterization (Normal 20–25 knots, ~85–90% load match); see also MAN Diesel & Turbo engine performance documentation.

4 Sustainable Ships, “Specific Fuel Consumption [g/kWh] for Marine Engines” (2022): marine SFC ranges 155–225 g/kWh at optimal load ~85% MCR; increases greatly at 30% Pmax; doubles at 7% Pmax (idle).

5 Power Models and Average Ship Parameter Effects on Marine Emissions Inventories (Goldsworthy, Starcrest, EPA 2009 methodology): Propeller Law load factor approximated by cubed ratio of ship speed to design speed for hull frictional resistance regime.

6 Wärtsilä, slow steaming fuel consumption analysis: 59% fuel reduction from 27 to 18 knots on a representative container vessel (Asia-Europe route).

7 Roy, R., et al. (October 2023), “Real-World NOx Emissions from Ships and Implications for Future Regulations,” ICCT Working Paper 2023-20: mean main engine NOx emission rate 8.1 g/kWh at loads >75%; documented engines typically operate at lower loads than certification cycles assume.

8 Explicit ApS, Real Sailing Emissions Data, South Coast AQMD Contract No. 21222: observed NOx EF >15 g/kWh at lower speed ratios; weighted-average certification asymmetry (20% reduction at high load may permit 80% increase at low load); Tier II vessel characterization (14.2 g/kWh average across loads).

9 Wang, Z., et al. (2017), “NOx emission calculations for bulk carriers by using engine power probabilities as weighting factors,” Journal of the Air & Waste Management Association: real-world high emission factors of slow-speed two-stroke engines during slow steaming; effect increases with main engine rated power.

10 Khan, M.Y., et al., “Effectiveness of Emission Control Technologies for Auxiliary Engines on Ocean-Going Vessels,” Journal of the Air & Waste Management Association 61(1):14–21: OGVs have one main + three to seven auxiliary engines; aux engines operate constantly except during shore power; HFO-to-MDO switching NOx reduction 21–41% at 50% load on one of three engines tested.

Additional references: U.S. EPA, Port Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions, EPA-420-B-22-011 (April 2022), Table 3-4 auxiliary engine load factor assumptions; IMO Fourth Greenhouse Gas Study (CE Delft, 2020); California Air Resources Board Title 13, CCR §2710 (Verification Procedure for Alternative Diesel Fuels and Fuel Additives).

* Methodological Note. The arithmetic in this appendix is illustrative engineering estimation grounded in published engine performance curves, EPA Port Emissions Inventory Guidance load-factor tables, and peer-reviewed real-world NOx measurement studies. Vessel-specific outcomes vary with hull form, engine generation, fuel type, ambient conditions, and other factors. The District, CARB, and the Ports are far better positioned than any private commenter to conduct precise modeling using vessel-by-vessel data.

Responses to Written Comment #14:

Joint Response to Comment 14-1

Staff from the Ports and the South Coast AQMD appreciate the comment and detailed technical information submitted on how fuel additives can potentially reduce emissions from internal combustion engines used in port sources, before the full transition to zero-emission port operation. The focus of the current Cooperative Agreement is zero-emission port infrastructure planning and implementation, and the additional CAAP Plus Measures are proposed to complement the zero-emission infrastructure plans. However, we welcome discussions on verified emission reduction methods as ongoing efforts by the Ports and South Coast AQMD, either jointly or individually, continue to occur outside of the Cooperative Agreement.

While we understand the potential to achieve near term emission reductions through deployment of fuel additives in combustion engines, the Ports have committed to achieving zero-emission operation of drayage trucks and cargo-handling equipment. Further, for drayage trucks specifically, the Board of Harbor Commissioners for each Port has reaffirmed this commitment by directing staff to limit spending of Clean Truck Fund revenue to zero-emission trucks and supporting infrastructure. This commitment to a zero-emission transition is reflected in Cooperative Agreement, which requires the Ports to develop zero-emission infrastructure plans for the five major sources of emissions.

Staff Response to Comment 14-2

Comments on CARB regulation and the mandatory fuels evaluations are best discussed with and addressed by CARB, who is not a party to the Cooperative Agreement.

Ports' emissions inventory reports are voluntarily compiled and published by the Ports of Long Beach and Los Angeles as part of their Clean Air Action Plan (CAAP) commitments. The emission reductions reported therein are not creditable towards federal air quality standards attainment under the State Implementation Plan (i.e., not "SIP creditable"), and the methodology document was published for transparency purposes and is not a regulatory document. The associated Technical Working Group is annually provided an opportunity to review and comment on the draft emissions inventory reports. The Technical Working Group does not oversee the preparation of the annual reports, nor does it approve the final report before it is presented to the Ports' respective Boards of Harbor Commissioners.

Staff Response to Comment 14-3

Comments on compliance pathways for CARB's Commercial Harbor Craft (CHC) Regulation are best discussed with and addressed by CARB, who is not a party to the Cooperative Agreement. The Cooperative Agreement generally focuses on near-term actions that go beyond regulatory compliance.

Staff Response to Comment 14-4

Please refer to Joint Response to Comment 14-1.

Staff Response to Comment 14-5

Please refer to Joint Response to Comment 14-1, and Staff Response to Comment 14-2 regarding CARB's fuels multimedia evaluations requirements.

Staff Response to Comment 14-6

Please refer to Staff Response to Comment 14-3 on compliance with CARB's CHC Regulation. Staff welcomes discussion outside of the Cooperative Agreement on verified emission reduction methods that go beyond regulatory compliance.

Staff Response to Comment 14-7

Please refer to Staff Response to Comment 14-2 related to Ports' emissions inventories.

Staff Response to Comment 14-8

Please refer to Joint Response to Comment 14-1.

Staff Response to Comment 14-9

The proposed additional measures include developing and implementing the Enhanced Clean Ship Incentive Program, which will enhance each Port's existing incentive program through alignment with the anticipated Environmental Ship Index (ESI) 2.0. Program development is required to include a public process where stakeholders may provide input and comments. Comments on ESI 2.0 per se are outside the scope of this Cooperative Agreement and are best discussed with and addressed by the International Association of Ports and Harbors (IAPH), who is not a party to the Cooperative Agreement. Regarding addressing emissions from port sources other than OGVs, staff welcomes discussion outside of the Cooperative Agreement on verified emission reduction methods that go beyond regulatory compliance.

Ports Response to Comment 14-10

The Clean Marine Fuels Assessment is focused on low- and no-carbon marine fuels for ships. At this time, the Ports do not anticipate including fuel additives in the assessment; however, the Ports are always open to evaluating technologies and fuels that have been verified by the California Air Resources Board, and there is nothing in the Cooperative Agreement or draft Addendum that precludes this ongoing evaluation.

Ports Response to Comment 14-11

While we understand the potential to achieve near term emission reductions through deployment of fuel additives in combustion engines, the Ports have committed to achieving zero-emission operation of cargo-handling equipment. For harbor craft, the Ports are always open to evaluating technologies and fuels that have been verified by the California Air Resources Board, and there is nothing in the Cooperative Agreement or draft Addendum that precludes this ongoing evaluation.

Ports Response to Comment 14-12

The study is intended to assess ship engine emissions at low loads. At this time, the Ports do not anticipate including fuel additives in the assessment; however, the Ports are always open to evaluating technologies and fuels that have been verified by the California Air Resources Board, and there is nothing in the Cooperative Agreement or draft Addendum that precludes this ongoing evaluation.

Staff Response to Comment 14-13

Please refer to Joint Response to Comment 14-1 and Staff Response to Comment 14-3.

Staff Response to Comment 14-14

Staff welcomes discussion outside of the Cooperative Agreement on verified emission reduction methods that go beyond regulatory compliance, particularly those with successfully demonstrated industry use cases.

Staff Response to Comment 14-15

Please refer to Joint Response to Comment 14-1, and Staff Responses to Comments 14-2 and 14-14.

Staff Response to Comment 14-16

Please refer to Joint Response to Comment 14-1, Staff Response to Comment 14-3, and Ports Responses to Comments 14-11 and 14-12.



June 5, 2026

Mayor Bass
200 N. Spring St.
Los Angeles, CA 90012

Mayor Richardson
411 W. Ocean Blvd.
Long Beach, CA 90802

Chair Cacciotti and Members of the Governing Board
South Coast Air Quality Management District
21865 Copley Dr.
Diamond Bar, CA 91765

RE: Comments on Draft Addendum to Cooperative Agreement

Dear Mayor Bass, Mayor Richardson, and Chair Cacciotti and Members of the South Coast Air Quality Management District Governing Board,

On behalf of the undersigned members of the Trade, Health, and Environment (THE) Impact Project, we submit the following comments on the Draft Addendum to the Cooperative Agreement. As noted in our previous comment letter, the additional CAAP Plus measures that the San Pedro Bay Ports and South Coast Air Quality Management District commit to in this Addendum must (1) prioritize the protection of public health; and (2) improve transparency and accountability to the public.

Unfortunately, the Draft Addendum is wholly insufficient in addressing the outsized pollution and health impacts attributable to port pollution. These comments emphasize the need for additional measures targeted at the remaining categories of port equipment. In addition, we offer feedback on the proposed Port Emission Reduction Programs and Regional Off-Port Truck Infrastructure Program.

I. Need for Emission Reduction Measures Covering All Port Sources

We want to point out that the Draft Addendum does not include any actions beyond what the Ports have previously stated that they intend to pursue, separate from this Cooperative Agreement process. Last August, the San Pedro Bay Ports announced in a Quarterly Clean Air

Comment
15-1

Comment
15-2

Action Plan Update that each Port would update their ESI Incentive Program due to changes expected from the ESI 2.0 baseline updates.¹ Similarly, through implementation of the Clean Truck Fund Rate, the Ports were already contemplating incentive programs, such as a per-trip incentive to lower operational costs for zero-emission trucks.² While we support these programs, these are the only two real commitments in the Draft Addendum, which were already underway at the Ports. Moreover, we want to point out that the Cooperative Agreement, approved last December, stated that the Ports and AQMD would negotiate additional CAAP Plus Measures for the following source categories: (1) oceangoing vessels; (2) drayage trucks; (3) cargo handling equipment; (4) harbor craft; (5) on-port locomotives; and (6) workforce development.

We are disappointed to see that the Ports are only proposing emission reduction programs for two source categories and offer no concrete actions for other key categories of port equipment, such as cargo handling equipment, locomotives, and harbor craft. While the Preamble states that each City will continue to develop and implement activities that support emission reductions, the listed actions do not address all port sources and fail to provide any tangible commitments or hard deadlines. For example, the Draft Addendum indicates that each City will “develop[] a projection for Zero-Emission Cargo Handling Equipment Deployments.” These vague statements and the two Port Emission Reduction Programs identified in this Draft Addendum do not adequately address the health impacts borne by our portside communities.

The Ports’ progress in cleaning up port operations has slowed in recent years, and emission trends at both Ports indicate that existing policies are inadequate in countering the ongoing growth and concomitant pollution poisoning our portside communities. In 2024, both Ports experienced record-breaking cargo throughput, and this growth was accompanied by an increase in emissions from all port sources – 23 percent increase in diesel pollution and 12 percent increase in nitrogen oxide pollution at the Port of Long Beach, and 8 percent increase in diesel pollution at the Port of Los Angeles, compared to the prior year.³ These emission trends, coupled with the Ports’ continued growth, make it clear that the proposed programs are not enough to safeguard public health and ameliorate the health risks borne by portside communities.

The Draft Addendum must include additional measures that will facilitate cleanup of all port sources and incorporate the recommendations from our previous letter, including the following proposals:

- Support electrification of the Alameda Corridor and provide at least \$25 million to support overhead catenary infrastructure
- Devise Alternative Clean Freight Fee program, expanding the Clean Truck Fund Rate to containers moved by all modes of port equipment, which could generate incentive funds

¹ San Pedro Bay Ports, Clean Air Action Plan – Ocean Going Vessel Update presentation (Aug. 5, 2025), slides 2-7.

² Port of Long Beach, Clean Truck Program Update & Year 5 Spending Plan Priorities (Mar. 23, 2026), slide 3, 5.

³ Port of Long Beach, Air Emissions Inventory – 2024, pg. ES-2 (Sep. 2025); Port of Los Angeles, Inventory of Air Emissions 2024, pg. ES-6 (Sep. 2025).

that can go towards cleanup of harbor craft, locomotives, cargo handling equipment, and ships, as well as supporting infrastructure.

- Set goal of achieving 100% zero-emission harbor craft fleet by 2035
- For each Port, commit at least \$10 million per year to fund deployments of battery-electric cargo handling equipment, harbor craft, switcher locomotives, and installation of supporting infrastructure

Comment
15-3, Cont'd

As this Draft Addendum does not provide the full scope of Additional CAAP Plus Measures envisioned in the Cooperative Agreement, the Ports and AQMD must include, at minimum, a clause requiring further negotiations of additional measures following the release of Draft ZE Plans for the three Phase source categories.

Comment
15-4

II. Enhanced Clean Ship Incentive Program

Oceangoing vessels are the largest source of port emissions, and an overhaul of these programs is long overdue. As the Preamble notes, the San Pedro Bay Ports are conducting a Clean Marine Fuel Assessment, which must include a thorough analysis of the health and safety risks of each alternative marine fuel and technology that will help inform the development of the Enhanced Clean Ship Incentive Programs. Moreover, the Clean Marine Fuel Assessment cannot evaluate liquefied natural gas as an option, as LNG is not a clean fuel and should not be incentivized in the incentive programs.

Comment
15-5

We appreciate that the Draft Addendum identifies elements that will improve public transparency, such as publicly sharing information on ship types typically calling at each port and current participation levels in the existing programs. This transparency is critical to enabling community members to engage in the public process and provide feedback on the development of each Port's Enhanced Clean Ship Incentive Program. The Ports must maintain this transparency following adoption of the Enhanced Clean Ship Incentive Programs by continuing to report on participation levels and quantifying the emission benefits associated with the programs.

Comment
15-6

III. Zero-Emission Truck Utilization Incentive Program

We support the development of incentive programs that will encourage the use of zero-emission drayage trucks serving the Ports and the per-trip feebate proposal aligns with the previous recommendations several groups made in 2019 with the help of the UCLA Luskin Center. However, we want to emphasize that the Ports are already undertaking these efforts through their respective Clean Truck Programs. This proposal simply repackages existing efforts, while failing to appropriately chart a path towards the 2017 Clean Air Action Plan Update goal of achieving a 100% zero-emission drayage truck fleet by 2035.

Comment
15-7

With less than ten years left, it is imperative that the Ports develop a roadmap to achieving the 2035 goal, including exploring other policies that can further accelerate the adoption and deployment of zero-emission trucks. This request is consistent with the recommendation of the

Sustainable Supply Chain Advisory Committee, which was set up to advise the Mayors of Los Angeles and Long Beach. The Zero-Emission Truck Utilization Incentive Program is one of only two measures proposed in the Draft Addendum, yet the Ports can provide no assurances that this program is sufficient to get us on track to meet the 2035 goal. We ask that the Ports consider more effective policies, such as an increased Clean Truck Fund Rate of \$70/TEU.

Comment
15-7, Cont'd

IV. Regional Off-Port Truck Charging & Fueling Infrastructure

Comment
15-8

We are glad that the Draft Addendum includes a funding commitment from both Ports for this regional truck charging and fueling infrastructure initiative, but we urge the AQMD to prioritize battery-electric technologies in selecting projects. We want to make clear now that we do not support hydrogen fuel cell technologies in applications where battery-electric technology is proven and already in operation.

The technology for battery-electric trucks is far more mature and more economically viable. Moreover, over 95 percent of hydrogen production is currently derived from fossil fuels and presents significant emission risks.⁴ Fossil-based hydrogen production is also extremely water-intensive, requiring up to 40 liters of freshwater to produce a single kilogram of hydrogen.⁵ We cannot allow more water extraction from communities that are already water scarce. Aside from the relative inefficiencies of hydrogen, it is a highly flammable substance that presents significant safety risks. A reliance on hydrogen fuel cell trucks would require the buildout of infrastructure, including pipelines and refueling stations through densely populated neighborhoods. The transportation and storage of hydrogen also threaten the safety of workers and frontline communities. In the administration of this program, the AQMD must conduct public workshops to solicit feedback from freight-impacted communities and ensure that the deployments of zero-emission trucks and installation of supporting infrastructure meet community needs. Therefore, we ask that the AQMD focus on charging infrastructure for this funding. In addition to the February 28, 2027 deadline for approval of MOUs, the Addendum should set a timeline for the AQMD to announce the solicitation and review project applications.

Comment
15-9

In entering into the Cooperative Agreement, the Ports and AQMD committed to work together to reduce port emissions for the health of all residents in the South Coast Air Basin, including our overburdened portside communities. This Draft Addendum does not go far enough in addressing our port pollution crisis, and we ask that the Ports and AQMD increase their ambition and devise additional emission reduction measures. We appreciate your consideration of these comments and welcome the opportunity to discuss with you.

Comment
15-10

⁴ U.S. Department of Energy, Hydrogen Resources, <https://www.energy.gov/eere/fuelcells/hydrogen-resources>

⁵ RMI, *Hydrogen Reality Check: Distilling Green Hydrogen*, <https://rmi.org/hydrogen-reality-check-distilling-green-hydrogens-water-consumption> (2023).

Sincerely,

Regina Hsu
Earthjustice

Marven Norman
**Center for Community Action &
Environmental Justice**

Alison Hahm
Natural Resources Defense Council

Davina Hurt
Cristhian Tapia-Delgado
Pacific Environment

Peter M. Warren
**San Pedro & Peninsula Homeowners
Coalition**

Jennifer Maria Cardenas
Sierra Club

Theral Golden
West Long Beach Association

cc:

Los Angeles Board of Harbor Commissioners

Long Beach Board of Harbor Commissioners

Heather Tomley, Managing Director of Planning & Environmental Affairs, Port of Long Beach

Lisa Wunder, Director of Environmental Management, Port of Los Angeles

Ian MacMillan, Assistant Deputy Executive Officer, South Coast Air Quality Management
District

Responses to Written Comment #15:

Joint Response to Comment 15-1

The draft Addendum to the Cooperative Agreement is not meant to be inclusive of all environmental efforts taking place at the Ports; instead focusing on specific measures that can be implemented within the term of the Agreement. The Ports and South Coast AQMD continue to advocate for additional emission reduction through many avenues outside of the Cooperative Agreement including but not limited to providing direct funding for ZE equipment; securing and implementing grants at the federal, state, and local level; conducting feasibility and other studies; and investing in emerging technology through the Technology Advancement Program.

Please refer to Staff Response to Comment 7-1, as well as other responses to Comment Letter #7, which was previously submitted by the same organizations and additional groups. Please also refer to Staff Responses to Comment Letter #11 on public health, community engagement, transparency and accountability.

Ports Response to Comment 15-2

Although some of the concepts have been previously introduced by the Ports, the measures proposed in the draft Addendum to the Cooperative Agreement provide an enforceable mechanism and timeline, including a defined stakeholder participation component that will help frame the scope of the measures.

The previously approved Cooperative Agreement focuses on infrastructure planning and implementation through the term of the Agreement. The parties to the Agreement consider infrastructure planning a key activity that will define needs across all five major mobile source categories, which will also be informed through a process with the public and expert stakeholders.

Since adoption of the 2017 Clean Air Action Plan, the Ports have seen an 8% decrease in diesel particulate matter, 30% decrease in nitrogen oxides, and a 22% decrease in sulfur oxides, despite a 28% increase in container throughput during this period, showing significant continued emission reduction in recent years. The proposed strategies in the draft Addendum to the Cooperative Agreement include new ZE truck incentives and cleaner ship incentives, which are designed to result in even more emission reductions. Coupled with funding already earmarked by the Ports and operators, as well as grants for ZE cargo-handling equipment, cleaner harbor craft, and ZE locomotives, these new proposed strategies will lead to continued reductions in coming years.

Ports Response to Comment 15-3

The Alameda Corridor is managed through the Alameda Corridor Transportation Authority (ACTA), and ACTA is not a party to this agreement. The approved Cooperative Agreement requires the Port to prepare an infrastructure plan for locomotives on port-managed properties, including a public and expert stakeholder process for input, that will also inform future pathways for ZE locomotives.

The Ports continue to monitor revenues and expenditures through the CTFR. Currently, the Ports are focusing on utilizing the funding that is being collected. The Ports will continue to report on

CTP funding availability and priorities and will assess effectiveness of the CTFR in advancing the deployment of ZE trucks and infrastructure.

Both Ports are implementing several large grant projects to facilitate the transition and upgrade of harbor craft using funding secured through grants. There is currently \$33.7 million in active harbor craft projects for zero-emission capable tugboats and excursion vessels, with an additional \$28.7 million awarded for vessel upgrades to the cleanest diesel or zero-emission capability. A second round of approximately \$30 million in pass-through grant funding secured by Port of Long Beach for additional clean and ZE harbor craft operating in San Pedro Bay is expected to be awarded in mid-2026. Information about ongoing and upcoming activities by the Ports related to deploying cleaner harbor craft was provided at the April 14, 2026 Clean Air Action Plan Implementation Advisory Group meeting. Presentation materials can be found on the Ports' joint Clean Air Action Plan website (<https://cleanairactionplan.org/about-the-plan/stakeholder-advisory-group/>). During the preparation of the Harbor Craft Infrastructure Plan to be conducted in alignment with the terms of the previously adopted Cooperative Agreement, Port staff will review the current makeup of their respective harbor craft fleets and consider various strategies to encourage transition to cleaner harbor craft. Currently, ZE technology for most harbor craft has not reached the commercialization phase.

The Ports have each been very aggressive in pursuing state and federal grant funding on behalf of their tenants for zero-emission projects, including for zero-emission infrastructure. Combined to date, the Ports have secured more than \$288 million for ZE terminal equipment, locomotives, and harbor craft along with \$340 million in grant funding for ZE on-port infrastructure development that will be matched by more than \$100 million in Port funds. Under the INVEST CLEAN program administered by South Coast AQMD, more than \$100 million has additionally been awarded to support ZE terminal equipment, locomotives, and infrastructure at the ports (<https://www.aqmd.gov/docs/default-source/agendas/governing-board/2026/2026-jun5-006.pdf>). In addition, through the ZE infrastructure plans that will be developed under the terms of the Cooperative Agreement approved in 2025, both Ports will be working with the operators to identify cost estimates and projected funding sources for developing zero-emission infrastructure on port-managed properties.

Staff Response to Comment 15-4

The Cooperative Agreement and the proposed Addendum are not meant to encompass the full scope of efforts conducted collaboratively and individually by each Port and the South Coast AQMD in addressing port emissions. Furthermore, staff is directed to recommend potential next steps to the Board, before the end of the 5-year term of the Cooperative Agreement, which will be either to continue the non-regulatory approach through an enforceable contract (i.e., extend, amend, or create a new Cooperative Agreement) or to pursue rulemaking.

Ports Response to Comment 15-5

The draft measure for Enhanced Clean Ship Incentives proposes to consider several key areas for updating the Ports' existing incentive programs, including aligning with ESI 2.0, and potential "plus-up" incentives that could provide incentive funding based on utilization of cleaner marine fuels. The specific details of the program will be developed through a public and expert stakeholder process.

Ports Response to Comment 15-6

Thank you for acknowledging the draft Addendum's focus on public transparency. The Cooperative Agreement and the proposed Addendum prioritize public process and transparency. In response to previous public comments, South Coast AQMD and the Ports have already agreed to increase the public review period for draft materials related to programs developed under this Addendum to 45 days. Specific to the development of the Enhanced Clean Ship Incentive Program, the Ports encourage interested parties to review information that is already available to the public that will inform the upcoming enhancements to the ship incentive programs, including the existing port ESI-based incentive programs^{1 2}, and the Port of Long Beach Clean Marine Fuels White Paper³. Requirements for progress reporting and program evaluation are included in the Addendum. In addition, each port publicly releases emissions information on an annual basis for all port emissions sources, including vessels, through their Emissions Inventories.

Ports Response to Comment 15-7

Thank you for your support of the proposed per-trip incentive program. The Ports also agree that more than one program will be needed to ensure the full transition to zero emissions trucks serving the ports. The proposed Zero-Emission Truck Utilization Incentive is one program in a portfolio of programs that the Ports are implementing to support progress toward achieving the Port's zero-emission drayage truck goal, which includes implementation of the Clean Truck Fund Rate (CTFR), providing incentives for the purchase of zero-emission trucks, support for development of charging and fueling infrastructure, hydrogen fuel subsidies and zero-emission truck early leaders awards. In addition, when the Ports established the ambitious goal of transitioning the port truck fleet to zero emission by 2035, this was based upon several assumptions, including when zero emission trucks would be commercially available, progress on the reduction of the cost per zero-emission trucks produced at scale, and the support of state and federal policies, funding programs, and regulations. In the years since the goal was established, many of the assumptions have not proceeded as anticipated. The Ports, however, have remained committed to supporting the zero-emission truck transition and continuing to identify opportunities to influence progress in alignment with the goal, such as through the development of the proposed Zero Emission Truck Utilization Incentive. Progress on zero-emission truck activity is reported monthly on each Port's website, included in each Port's annual emissions inventory, and reported to each Port's Board of Harbor Commissioners along with discussion of the CTFR spending priorities.

Ports Response to Comment 15-8

Each Port's Board of Harbor Commissioners set the Clean Truck Fund Rate (CTFR) at \$10 per twenty-foot container (TEU) or \$20 per forty-foot container. Depending upon cargo volumes and truck activity, each port collects between \$2 million and \$4 million per month. Both Ports are allocating funding to various programs and projects to support the transition to zero-emission trucks serving the Ports, including for providing incentives for the purchase of zero-emission trucks, support for development of charging and fueling infrastructure, hydrogen fuel subsidies and zero-emission truck early leaders awards. Based upon the current collection rate and the

¹ <https://polb.com/business/incentives#green-ship-program>

² <https://portoflosangeles.org/environment/air-quality/environmental-ship-index>

³ <https://polb.com/environment/air#clean-marine-fuels>

revenue spending rate, each Port has unallocated funds available that will continue to be used for current incentive programs and toward future incentives, such as the proposed Zero Emission Truck Utilization Program. Each Port's Board of Harbor Commissioners reviews progress on the CTFR collection and spending, including whether or not any adjustments to the CTFR are needed.

Staff Response to Comment 15-9

South Coast AQMD has always maintained a technology-neutral position and focuses on emission reductions. The Regional Off-Port Truck Charging and Fueling Infrastructure measure will accelerate the development of off-port infrastructure supporting the regional operation of zero-emission port drayage trucks that are commercially deployed. Project selection criteria under this measure will be further determined in a subsequent MOU between South Coast AQMD and each port, and for each selected project, South Coast AQMD will ensure all necessary and applicable permits and entitlements are appropriately addressed which may include, but are not limited to safety and environmental clearances. The subsequent MOU will also specify a timeline to ensure timely allocation of funding to selected projects. Funding allocation follows from a public solicitation process of eligible projects and must occur or have occurred prior to the funding allocation timeline.

Joint Response to Comment 15-10

The Cooperative Agreement and the proposed Addendum will ensure progress on zero-emission infrastructure planning and development, and development and implementation on key programs to reduce emissions from vessels and trucks through 2030. Additionally, South Coast AQMD and the Ports will continue to develop programs and projects to reduce port-related emissions outside of the Cooperative Agreement. The public is encouraged to take full advantage of the many public comment opportunities that will be made available during program development, reporting, and program evaluation.

Please refer to Staff Response to Comment 7-9.



Jodie Muller
President & CEO

July 20, 2026

submitted via e-mail to: ports_comments@aqmd.gov

Dr. Elaine Shen
Planning & Rules Manager
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: WSPA Comments on Proposed Addendum to the Cooperative Agreement

Dear Dr. Shen,

Western States Petroleum Association (WSPA) appreciates this opportunity to provide comments on the South Coast Air Quality Management District's (SCAQMD's or District's) Proposed Addendum to the Cooperative Agreement.¹ WSPA has been an active participant in air quality planning issues for over 30 years. WSPA is a non-profit trade association that represents companies that safely explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California, Washington, Oregon, Nevada, and Arizona. WSPA-member companies operate tanker vessel and marine terminal facilities that could be impacted by the Cooperative Agreement.

Tanker operations and marine oil terminal operations differ materially from other vessel classes and cargo terminals. These differences include the nature of cargo transfer operations, associated safety systems, and equipment requirements essential to safe operation. Assumptions developed for other vessel types may not be directly applicable to tanker operations. The unique tanker operation challenges cannot be understated.

WSPA requests that tanker vessel activity and marine oil terminal operations be explicitly recognized as a distinct operational category as programs under this addendum are developed.

Enhanced Clean Ship Incentive Program

WSPA appreciates that the proposed Addendum would require each Port to enhance its Clean Ship Incentive Program to encourage calls by lower-emitting ocean-going vessels. As described in the Addendum, these enhancements would be aligned with the anticipated launch of Environmental Ship Index (ESI) 2.0, may include additional environmental "plus-ups," and would require the Ports to describe the vessel types that typically call at each Port, including annual visits by vessel type, engine tier level, and fuel type.

Because these elements will shape the design of the final program, WSPA urges the Ports and SCAQMD to ensure that the enhanced Clean Ship Incentive Program is developed in a manner that recognizes meaningful operational differences among vessel categories, including tankers. The Addendum appropriately requires the Ports to evaluate current participation and non-participation by vessel type, engine tier, and fuel type; to justify the proposed enhanced program based on relevant factors, including stakeholder outreach and operational and financial considerations; and to establish anticipated participation goals with the understanding that

¹ SCAQMD's Cooperative Agreement, Proposed Addendum. Available at: https://www.aqmd.gov/docs/default-source/ports-ca/0_draft-preamble-to-addendum_06-12-clean.pdf?sfvrsn=1ff4667e_2. Accessed on 29 June 2026.

participation levels are beyond the control of the Ports. These requirements should be applied in a way that ensures tanker operations are not evaluated against generalized assumptions that may be more applicable to other vessel classes.

In particular, WSPA recommends that the enhanced program design ensures that:

- program criteria do not assume equivalent applicability across vessel classes, fuel types, engine configurations, operating profiles, or terminal-interface requirements;
- participation expectations and any related program metrics reflect actual operational capability, technology availability, fuel availability, safety requirements, and commercial constraints for tanker vessels;
- incentive structures remain voluntary and do not create effective constraints on tanker vessel calls, terminal access, or marine terminal operators' ability to receive tanker vessels; and

In addition, the use of program metrics and participation targets should not result in tanker operations being evaluated against assumptions that do not reflect their operational constraints.

Low-Load and Fuel Considerations

WSPA appreciates that SCAQMD and the Ports recognize the importance of continued technical work related to vessel emissions and clean marine fuel pathways. The source documents identify several ongoing efforts outside the Cooperative Agreement that are directly relevant to future program design, including a Clean Marine Fuels Assessment, a Clean Marine Fuels Pilot Project, and a study of vessel emissions at low-speed operations. The June public meeting materials also note that coordination with CARB on low-load ship emissions research is ongoing and that these efforts are intended to inform program design.

These issues are especially important for tanker operations. Low-load emissions performance, clean marine fuel availability, fuel compatibility, bunkering readiness, and terminal-interface requirements remain evolving and unresolved considerations. Accordingly, WSPA urges SCAQMD and the Ports not to treat low-load emissions performance or clean-fuel availability as settled assumptions when developing the Enhanced Clean Ship Incentive Program or any related implementation measures.

For tanker vessels and marine oil terminals, program design should account for the practical realities of vessel operations, safety requirements, fuel availability, infrastructure readiness, energy reliability, and operational continuity. These considerations are consistent with the source documents' acknowledgement that program development may consider technical studies, stakeholder outreach, operational and financial considerations, and that implementation should account for energy cost, availability, reliability, workforce and infrastructure readiness, market demand, and safety.

Consistency with Ongoing Marine Regulatory Work

WSPA has provided input into maritime regulations at the state-level, including the California Air Resources Board's At Berth and Commercial Harbor Craft regulations, regarding feasibility, safety, and site-specific operational considerations; WSPA is also actively participating in the CARB's Ocean Going Vessel In-Transit regulations that are currently under development. Those considerations remain relevant here and should be reflected as program elements affecting tanker operations are developed.

Comment
16-1, Cont'd

Comment
16-2

Comment
16-3

July 17, 2026
Page 3

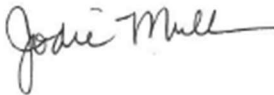
Coordination is especially important because these efforts are developing in parallel with state regulatory programs and other port-led initiatives. Without clear coordination among SCAQMD, the Ports, CARB, the United States Coast Guard, and other relevant agencies, there is a risk of overlapping, duplicative, or inconsistent expectations affecting tanker vessels, marine terminal operations, and fuel supply logistics across California. This could create uncertainty for vessel operators, charterers, marine terminal operators, and fuel supply logistics, particularly where program expectations differ from state regulatory timelines, technology feasibility determinations, safety requirements, or site-specific compliance pathways. These programs collectively influence vessel operations, marine terminal operations, and fuel movement throughout California. Program development should therefore account for cumulative system impacts rather than evaluating individual initiatives in isolation.

In summary, WSPA recommends the following:

- recognize tankers and marine oil terminal operations as a distinct operational category;
- avoid applying uniform assumptions across vessel classes;
- ensure incentive structures reflect feasibility and safety constraints;
- engage marine oil terminal operators and tanker stakeholders prior to finalizing program design elements affecting vessel operations; and,
- incorporate interagency coordination into program development for any elements affecting tanker operations.

WSPA appreciates the opportunity to provide these comments related to the Proposed Addendum for the Cooperative Agreement. We look forward to your consideration of our comments and further discussion. If you have any questions, please contact me or Ramine Ross at ross@wspa.org.

Sincerely,



cc: Wayne Nastri, SCAQMD
Ian MacMillan, SCAQMD
Elaine Shen, SCAQMD
Gene Seroka, Port of Los Angeles
Lisa Wunder, Port of Los Angeles
Dr. Noel Haczegaba, Port of Long Beach
Heather Tomley, Port of Long Beach
Captain Stacey Crecy, USCG Sector Los Angeles – Long Beach
Patty Senecal, WSPA
Ramine Ross, WSPA

Comment
16-3, Cont'd

Responses to Written Comment #16:

Ports Response to Comment 16-1

The Ports will conduct a public process to seek input on the clean ship incentive programs after the proposed Addendum is approved. Stakeholders are encouraged to provide comments on program specifics at that time.

Ports Response to Comment 16-2

The Ports will seek public input on the low-load vessel study referenced in the Addendum's preamble. Findings of this study may be used to inform ship incentive programs. The proposed Addendum also requires a public process for developing the clean ship incentive programs. Stakeholders are encouraged to provide comments on program specifics at that time.

Ports Response to Comment 16-3

Please refer to Ports Response to Comment 16-1.

Written Comment #17 from Coalition for Clean Air

From: Dori Chandler <dori@ccair.org>
Sent: Thursday, July 23, 2026 3:01 PM
To: Ian MacMillan <imacmillan@aqmd.gov>; Sarah Rees <srees@aqmd.gov>; Susan Nakamura <snakamura@aqmd.gov>
Cc: Felix Wang <felix@envirovoters.org>; Gracyna Mohabir <gracyna@envirovoters.org>
Subject: [EXTERNAL] Community Board Resolution

Dear Ian, Sarah, and Susan,

Our coalition is currently reaching out to AQMD Board and Staff members in the hopes that the Board will consider passing the attached resolution to honor communities' concerns about emissions reductions and AQMD's role in protecting communities across the air basin. We would love get staff support to pass the resolution on August 7th along with any CAAP+ measures. Please let us know if you have any suggestions or comments on the attached resolution language and let us know any next steps for how to get this on the agenda. We are also soliciting feedback and support from board members at this time.

Best,

Dori

Dori Chandler, MUP
Policy Advocate
Coalition for Clean Air (CCA)
617 West Seventh Street, Suite #300
Los Angeles, CA 90017
(760) 644-8655

Comment
17-1

South Coast Air Quality Management District Board Resolution to Protect Community and
Reduce Emissions from the San Pedro Bay Ports

Whereas, in response to community concerns, this Board of the South Coast Air Quality Management District resolves to continue addressing port related emissions and that the Ports Cooperative Agreement (“Agreement”) and this addendum to the Clean Air Action Plan Plus (“CAAP Plus) Measures are not the only actions the Board will take to ensure that emissions from the San Pedro Bay Ports are being reduced; and

Comment
17-2

Whereas, the South Coast region, home to approximately 17 million residents, has been ranked the nation’s smoggiest region for 25 of the past 26 years; and

Whereas, in the 2022 South Coast Air Quality Management Plan, measures MOB-O1 (Commercial Marine Ports) and MOB-02 (Railyards and Intermodal facilities) highlight the urgent need to reduce emissions from the San Pedro Bay Ports to reduce ground-level ozone, as the South Coast Air Basin is in “extreme” nonattainment under the federal Clean Air Act; and

Comment
17-3

Whereas, in the California’s State Implementation Plan port emissions reductions are necessary to reduce our state’s mobile-source emissions and there is a risk of federal action on California’s non-attainment status; and

Whereas, infrastructure is the first step to enabling emissions reductions AND the residents of the Air Basin would benefit tremendously from reducing emissions from sources associated with the Port – oceangoing vessels, drayage trucks, locomotives, commercial harborcraft, and cargo handling equipment; and

Whereas, the Agreement terminates after approximately five years on December 31, 2030 and residents of the Air Basin need to see assurances that the Agreement is fulfilling its stated goal of “achiev[ing] cleaner air for community and public health protection”; and

Comment
17-4

Whereas, in 2024 there was an increase according to the San Pedro Bay Ports Emissions Inventory in total diesel particle pollution, greenhouse gas emissions, and either NOx or SOx for the Ports of Los Angeles and Long Beach Ports; then

Therefore, be it resolved, that the Board will live up to its obligation to help the Air Basin achieve federal air quality standards; and

Comment
17-5

Be it further resolved, that any interim status update and annual progress reports on the Agreement provided to the Board shall be made publicly available, including methodology for emissions reduction associated with the implementation of the CAAP Plus Measures and rationale for any suggested additional action; and

Comment
17-6

Be it further resolved, that the South Coast AQMD Board and Staff will continue to look at other actions that can be taken, especially for locomotives, at-anchor ships, and commercial harbor

Comment
17-7

craft, during the next five years of the agreement, to measurably reduce emissions at the Ports to reach our clean air objectives; and

Comment
17-7, Cont'd

Be it further resolved, that the Board will bring this matter up for an interim status update of emissions reductions and evaluation no later than August 2028. At that time, South Coast AQMD Staff should return to the Board with a CAAP Plus Measure implementation interim status update. Should overall emissions reductions not be meeting the pace necessary to meet state and federal air quality emission standards, Staff should prepare recommendations for actions the Board can take during and after the term of the Agreement; and

Comment
17-8

Be it further resolved, that the South Coast AQMD reaffirms the necessity of creating, maintaining, and growing partnership with communities impacted by environmental injustice; and

Be it further resolved, that the South Coast AQMD commits to providing transparent and public opportunities to engage on the Agreement in additional venues beyond the one time provided to the community by the ports on the infrastructure plan at the CAAP Stakeholder Advisory Meetings; and

Be it further resolved, that the community will be engaged more frequently on port air quality updates in the following ways:

- A. Holding multiple public engagement opportunities at key milestones.
- B. Publishing a clear public engagement timeline in advance.
- C. Partnering with existing community structures (the Environmental Justice Advisory Group, AB 617 groups, trusted local organizations) to co-host engagement.
- D. Holding at least one engagement opportunity accessible to Inland Empire residents (in-person or hybrid).
- E. Providing public reporting back on how community feedback influences the final infrastructure plan.
- F. Building in measurable accountability metrics and progress updates on emissions reductions since infrastructure does not directly benefit communities while considering additional third party analysis on data collection and evaluation.
- G. Redesigning public engagement meetings to be more community-centered and participatory. Move beyond staff presentations by dedicating more meeting time to public discussion, interactive feedback collection, and opportunities for residents to ask questions, deliberate, and influence decisions before plans are finalized.
- H. Providing public education or public study groups for community education on pollution and emissions reduction mechanisms.

Comment
17-9

Be it finally resolved, that this Board will work to protect the air for each member of our Air Basin.

Comment
17-10

Responses to Written Comment #17:

Staff Response to Comment 17-1

Thank you for the submitted comments and suggestions. South Coast AQMD's actions are guided by our mission "to clean the air and protect the health of all residents in the South Coast Air District through practical and innovative strategies."

Staff Response to Comment 17-2

Staff agreed and has emphasized during the public process that broader and longer-term strategies to address port emissions will be evaluated after the critical first step of zero-emission infrastructure planning and implementation and in considerations of other concurrent regulations and initiatives that may be relevant to port emission reductions. In the meantime, the South Coast AQMD Governing Board has and will continue to consider actions towards reducing port emissions; as an example, South Coast AQMD Governing Board approved in June 2026 multiple awards totaling more than \$100 million to support zero-emission terminal equipment, locomotives, and infrastructure at the ports under the INVEST CLEAN program (<https://www.aqmd.gov/docs/default-source/agendas/governing-board/2026/2026-jun5-006.pdf>). In recognition of the above, the draft Board Resolution states that "the Cooperative Agreement and the proposed Addendum to the Cooperative Agreement do not represent the entirety of efforts in addressing port emissions that are collaboratively or individually conducted by the South Coast AQMD and the Ports of Long Beach and Los Angeles," and "the South Coast AQMD Governing Board directs staff to seek additional opportunities to further address port emissions from all port sources, including emission sources not specifically included in this Addendum such as locomotives, at-anchor ocean-going vessels, and commercial harbor craft, including by collaborating with the Ports of Long Beach and Los Angeles." Additionally, in the future when staff present publicly to the Mobile Source Committee on analyses of potential emissions benefits for approved plans and programs under the Cooperative Agreement (see Staff Response to Comment 17-6), the draft Board Resolution also directs staff to include a discussion of emissions trends from port sources and remaining emission reduction needs from ports and all other sources as determined in upcoming air quality management planning efforts.

Staff Response to Comment 17-3

Statements included in this and a few other comments are largely reflected in the Recitals section of the Cooperative Agreement, where the authority and responsibility of the South Coast AQMD, the Air District's attainment challenges, the associated public health impacts, and the need to further address emissions from port sources are recognized as motivation for implementing the CAAP Plus measures laid out in the Cooperative Agreement (including the Addendum to the Cooperative Agreement).

Staff Response to Comment 17-4

Staff agrees with the importance of tracking port emissions trends, which will serve as an important consideration when staff recommends the next step related to the Cooperative Agreement to the South Coast AQMD Governing Board before the end of the agreement's five-year term (see the November 7, 2025 Board Resolution at: <https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-nov7-030.pdf>, Attachment C). The draft Board Resolution for the proposed Addendum to the Cooperative Agreement contains Board direction

to staff to track port emissions, work with the Ports to ensure best-practice emissions inventories, to evaluate how CAAP Plus measures affect future emission reduction trends, and to consider this and any other relevant data (e.g., remaining emission reduction needs from port and all other sources) to help inform staff's subsequent recommended action to the South Coast AQMD Governing Board.

Staff Response to Comment 17-5

Please refer to Staff Response to Comment 17-3.

Staff Response to Comment 17-6

South Coast AQMD is committed to governance transparency and makes meeting materials publicly available, typically at least three days in advance of the meeting. The draft Board Resolution reaffirms this ongoing practice and additionally directs staff to make publicly available the methodology, data, and calculations used for all analyses of potential emissions benefits pertaining to the Cooperative Agreement and publicly present the analysis to the Mobile Source Committee, unless exempt from disclosure to the public in accordance with South Coast AQMD's guidelines for implementing the California Public Records Act.

Staff Response to Comment 17-7

Please refer to Staff Response to Comment 17-2.

Staff Response to Comment 17-8

South Coast AQMD Governing Board has already directed staff to provide annual updates on implementation of Cooperative Agreement starting before April 2028 (see the November 7, 2025 Board Resolution at: <https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-nov7-030.pdf>, Attachment C). The draft Board Resolution for the proposed Addendum to the Cooperative Agreement further directs staff to additionally provide semiannual updates, starting no later than December 2026, and subsequently present analyses of potential emissions benefits (see Staff Response to Comment 17-6), as well as a discussion of emissions trends from port sources and remaining emission reduction needs from port and all other sources determined in any air quality management planning efforts. In general, the region's overall emissions trends and its path to state and federal air quality attainment are evaluated and proposed during the development of Air Quality Management Plans and/or other State Implementation Plan activities, which go through their own public process and are brought separately for consideration for approval by the South Coast AQMD Governing Board.

Joint Response to Comment 17-9

South Coast AQMD is committed to community partnerships and providing public engagement opportunities, which are evidenced by the extensive public process not only for the proposed Addendum to the Cooperative Agreement (see Attachment D to the Board Letter) but through its broader work with the AB 617 communities and participation in community meetings and events. The public process for implementing the Cooperative Agreement and the proposed Addendum to the Cooperative Agreement consists of two parts: 1) Ports-led public process to guide policymaking by the Port Boards, and 2) South Coast AQMD public process to provide status updates on agreement implementation to its full Board and Mobile Source Committee (see also Staff Response to Comment 17-8).

The Cooperative Agreement includes a robust public process during the development of the defined plans and programs. The parties to the Agreement are committed to public engagement opportunities at key milestones under the Cooperative Agreement, in addition to the significant public outreach currently conducted for other air quality programs. For example, both Ports have already conducted initial outreach pertaining to the Phase I infrastructure plans for trucks and terminal cargo-handling equipment, with commitments for periodic updates and engagement both before the infrastructure plans are released for public review and during the public review period, with a similar process for subsequent infrastructure plans.

The parties to the Agreement appreciate the recommendations on how to improve the public process, including allowing for ample time for questions and open discussion, rather than just relying on presentations, and will look to incorporate these suggestions, as applicable.

In recent years, the Ports have partnered with various NGOs and expert stakeholders to convene knowledge sessions with the community, in focused meetings on environmental topics including Green Shipping Corridors and electrical infrastructure and will continue to seek opportunities for similar educational opportunities.

Staff Response to Comment 17-10

Please refer to Staff Responses to Comments 17-1 and 17-3.

ATTACHMENT G: CEQA ANALYSIS OF THE PROPOSED ADDENDUM TO THE COOPERATIVE AGREEMENT BETWEEN SOUTH COAST AQMD AND THE PORTS OF LONG BEACH AND LOS ANGELES

INTRODUCTION AND SUMMARY OF THE PROPOSED ADDENDUM TO THE COOPERATIVE AGREEMENT

CEQA ANALYSIS OF THE ADDITIONAL MEASURES IN THE PROPOSED ADDENDUM TO THE COOPERATIVE AGREEMENT

Project Background and Approach for CEQA Analysis

Summary of Environmental Impacts of Additional Measures

Environmental Topic Areas with Potentially Significant Impacts

Environmental Topic Areas with Less than Significant or No Impacts

*Conclusion of the CEQA Analysis of the Additional Measures in the Proposed
Addendum to Cooperative Agreement*

CEQA ANALYSIS OF THE COST RECOVERY PROVISION

CEQA ANALYSIS OF THE CLEAN AIR MITIGATION FUND

REFERENCES

INTRODUCTION AND SUMMARY OF THE PROPOSED ADDENDUM TO THE COOPERATIVE AGREEMENT

The South Coast Air Quality Management District (South Coast AQMD), in collaboration with the Ports of Long Beach and Los Angeles (Ports), developed and entered into the Cooperative Agreement Between the South Coast Air Quality Management District, the City of Long Beach Harbor Department, and the City of Los Angeles Harbor Department (Cooperative Agreement) to address sources of air pollution associated with port operations and to develop zero-emissions infrastructure plans which contain “Clean Air Action Plan Plus (CAAP Plus) Measures. Specifically, the Cooperative Agreement: 1) requires the Ports to prepare and implement charging and fueling infrastructure plans; 2) incorporates provisions for South Coast AQMD to recover reasonable costs for staff expenses; and 3) establishes a Clean Air Mitigation Fund for payments if a Port fails to complete actions within their control. The South Coast AQMD Governing Board approved the Cooperative Agreement on November 7, 2025, and it was executed in full on December 17, 2025.

The provisions pertaining to the development and implementation of charging and fueling infrastructure plans in accordance with the Cooperative Agreement were determined to qualify as a later activity within the scope of the programs approved for the 2022 Air Quality Management Plan (AQMP) and the 2016 AQMP as set forth in the California Environmental Quality Act (CEQA), and the Final Program Environmental Impact Report (EIR) for the 2022 AQMP and the Final Program EIR for the 2016 AQMP were determined to adequately describe the activity for the purposes of CEQA such that no new environmental document was required. The cost recovery provisions in the Cooperative Agreement were determined to be exempt from CEQA. The creation of the Clean Air Mitigation Fund in the Cooperative Agreement was determined not to be a project within the meaning of CEQA.

In accordance with the commitments made in the Cooperative Agreement, South Coast AQMD and the Ports continued to negotiate about the potential to incorporate additional measures to address specific port source categories into the Cooperative Agreement which resulted in the development of the proposed Addendum to the Cooperative Agreement.

The proposed Addendum to the Cooperative Agreement (proposed Addendum) is comprised of two main components: the Preamble and the additional CAAP Plus measures. The Preamble provides the background and purpose of the proposed Addendum and describes the proposed additions to the Cooperative Agreement along with corresponding amendments necessary to integrate the proposed additions. The applicability of the terms and conditions in the current Cooperative Agreement, including enforcement provisions, to the proposed Addendum is specified in the Preamble. The Preamble also describes the Ports’ other ongoing commitments which will occur separately and independently of the Cooperative Agreement, such as developing a Clean Marine Fuel Assessment¹, soliciting proposals for implementing a Clean Marine Fuel Pilot Project², conducting a technical study on vessel emissions at low-speed operations, preparing a

¹ San Pedro Bay Ports Clean Air Action Plan, 2026. <https://cleanairactionplan.org/2026/07/07/july-28-2026-update/>

² Port of Los Angeles: https://portoflosangeles.org/references/2026-news-releases/news_042026_green_corridor
C40 Cities: <https://www.c40.org/news/los-angeles-long-beach-and-shanghai-green-shipping-corridor-successfully-complete-phase-one-milestone-targets/> and <https://www.c40.org/news/los-angeles-long-beach-singapore-green-and-digital-shipping-corridor-unveils-inaugural-progress-report-showcasing-milestones-and-vision-ahead/>

Clean Truck Fund Rate Spending Plan³, and developing ZE cargo-handling equipment deployment projections. It is important to note, however, that these other ongoing commitments are being implemented by the Ports through existing agreements⁴ or they do not fit the scope or focus of the proposed Addendum to the Cooperative Agreement, and thus, have only been included in the Preamble for reference purposes.

The proposed Addendum seeks to incorporate three additional CAAP Plus measures into the Cooperative Agreement in support of the existing requirement for the Ports to develop and implement zero-emission infrastructure. Two of the additional measures contain requirements for the Ports to develop and implement emission reduction programs. Specifically, the Ports must adopt enhancements to their current clean ship incentive programs so as to encourage increased port calls from the cleanest ocean-going vessels, according to an international clean ship-ranking system. The Ports must also develop and implement a new incentive program to encourage utilization of zero-emission trucks which serve the Ports. Additional key elements within these two measures include requirements for the Ports to conduct a public process, implement enforcement provisions, track progress and submit reports which evaluate the effectiveness or success of each program, determine if objectives are met, and determine whether a potential course correction is needed. Time extension provisions are also included in the event that delays are caused that are beyond the Ports' control.

The third additional CAAP Plus measure includes a requirement for each Port to allocate \$20 million (totaling \$40 million) to South Coast AQMD for regional off-port zero-emission truck charging and fueling infrastructure projects that will support off-port operations of zero-emission drayage trucks registered in the Ports Drayage Truck Registry. South Coast AQMD will be responsible for managing and distributing funds, as well as monitoring and reporting on the implementation of selected projects. This measure requires South Coast AQMD and each Port to enter into a memorandum of understanding (MOU) that includes the following elements: recitals, project selection requirements, process for uncommitted funds, reporting requirements, public process, and MOU term. South Coast AQMD staff costs to manage funds and projects will be recovered with an administration fee that will not exceed ten percent of the awarded project total.

In summary, the proposed Addendum to the Cooperative Agreement: 1) includes three additional measures requiring the Ports to enhance their current clean ship incentive programs to encourage port calls from the cleanest ocean-going vessels, to develop and implement a new incentive program to encourage utilization of zero-emission trucks, and to allocate funds to South Coast AQMD for regional off-port zero-emission truck charging and fueling infrastructure projects; 2) incorporates a provision for South Coast AQMD to recover reasonable costs for newly introduced staff expenses; and 3) directs payment for contract defaults to go into the Clean Air Mitigation Fund previously established in the Cooperative Agreement. This section summarizes these three

³ Clean Truck Fund Rate Spending Plan, Port of Los Angeles.
https://kentico.portoflosangeles.org/getmedia/c278bed6-7166-4d41-a958-13c12b96a8a9/10_environmental_ctf-2025-2027-spending-plan-transmittal-1

Clean Truck Fund Rate Spending Plan, Port of Long Beach: <https://polb.com/port-info/news-and-press/port-to-increase-investment-in-clean-trucks-03-28-2025/>

⁴ Green Shipping Corridors Agreement, Port of Los Angeles:
<https://portoflosangeles.org/environment/air-quality/international-partnerships/green-shipping-corridors>

components of the proposed Addendum to the Cooperative Agreement, and the following sections examine the applicability of CEQA, and analyze the potential environmental impacts, if any.

For reference, CEQA is comprised of Public Resources Code Section 21000 et seq. and the CEQA Guidelines which are codified in Title 14 California Code of Regulations Section 15000 et seq. CEQA requires the evaluation of all potential adverse environmental impacts of proposed projects, and the identification and implementation of methods to reduce or avoid significant adverse environmental impacts of these projects, if feasible. (Public Resources Code Section 21061.1 and CEQA Guidelines Section 15364 define feasible.) The purpose of the CEQA process is to inform decision makers, public agencies, and interested parties of potential adverse environmental impacts that could result from implementing a proposed project and to identify feasible mitigation measures or alternatives, when an impact is significant.

CAAP Plus Measures in the Proposed Addendum to Cooperative Agreement

CAAP Plus Measures – Port Emission Reduction Programs

The following two incentive programs are proposed to encourage clean ship calls and ZE truck utilization at the ports, as well as complement the planning and implementation of ZE on-port infrastructure required by the current Cooperative Agreement.

Enhanced Clean Ship Incentive Program

Under this program, each Port will enact enhancements to their respective Clean Ship Incentive Program to encourage ship calls via lower-emitting oceangoing vessels (OGVs). These enhancements will: 1) increase program participation levels defined as the percentage of calls from ships meeting more stringent air emissions requirements; 2) be aligned with the anticipated launch of Environmental Ship Index (ESI) 2.0, which is the international ship-ranking system used by both Ports to determine a ship's environmental score, with a focus on air-related environmental factors such as fuel use and engine type; and 3) consider any additional "plus-ups" to achieve over and above the ESI score.

Moreover, under this program, each Port is expected to develop a Clean Ship Incentive Program with the following elements: 1) a description of the OGVs that typically call at their port, including annual visits by vessel type, engine tier level and fuel type; 2) a description of the existing incentive program, including current vessel participation levels and a comparison of currently participating and non-participating vessels by vessel type, engine tier, and fuel type; 3) a description of the proposed enhanced program, including program objective(s), incentive amounts, ESI 2.0 scores aligned to each incentive level, and any additional environmental "plus-ups" to be incentivized; 4) a justification for the enhanced program describing the considerations and factors that were taken into account when developing the proposed enhanced program including but not limited to Port policies and goals, findings from technical studies, stakeholder outreach, and operational and financial considerations; 5) anticipated participation goals according to the known information at the time of program development, and justification for the participation goals, with the understanding that participation levels are beyond the control of the Ports;

6) annual Program budget and funding mechanism(s); and 7) program metrics for tracking and reporting program performance that will also allow for an evaluation of associated clean air benefits.

Zero-Emission Truck Utilization Incentive Program

Under this program, each Port will evaluate and develop an incentive program designed to encourage the deployment of ZE trucks to terminals. Incentives that may be provided on the basis of truck metrics (e.g., per truck trip) should be designed to encourage increased utilization of ZE trucks.

The proposed incentive program is required to have the following components: 1) objective(s), general guidelines, incentive amounts, and the mechanism of how incentives will be provided to participating fleets; 2) a justification of the proposed incentive approach that describes the considerations and factors taken into account when developing the program concept, including but not limited to port policies and goals, findings from technical studies, stakeholder outreach, software and hardware requirements, and operational and financial considerations; 3) anticipated participation goals according to the information known at the time of concept development, and justification for the participation goals, with the understanding that participation levels are beyond the control of the Ports, and description of anticipated program benefits from achieving performance goals, as they relate to clean air benefits; 4) annual program budget and funding mechanism(s); and 5) program metrics for tracking and reporting program performance that will also allow for an evaluation of associated clean air benefits.

CAAP Plus Measures – Regional Off-Port Truck Charging and Fueling Infrastructure

This proposed measure will support the buildout of ZE infrastructure outside of the Ports as a complement to the Port Zero-Emission Infrastructure Plans measure in the current agreement which focuses on infrastructure planning and implementation on Port-managed properties.

Under this measure, the Ports will provide \$40 million in total, or \$20 million per Port, to the South Coast AQMD to fund regional off-port ZE truck charging and fueling infrastructure projects that will further support off-port operations of ZE drayage truck registered in the Ports Drayage Truck Registry. South Coast AQMD will be responsible for managing and distributing funds to selected projects within a specific timeline. This measure requires South Coast AQMD and each Port to enter into a memorandum of understanding (MOU) to determine administrative details such as payment schedule and reporting of fund spending by the South Coast AQMD to the Ports and the public. Each MOU needs to include the following elements: recitals, project selection requirements, process for uncommitted funds, reporting requirements, public process, and MOU term. The final MOUs must be brought for the necessary approvals by each party's respective Boards no later than February 28, 2027, following a public process that includes an update to the South Coast AQMD Governing Board's Technology Committee.

This measure also includes a provision for recovering reasonable costs, which are expected to be incurred by South Coast AQMD for staff's fund administration and project management.

Cost Recovery Provision in the Proposed Addendum to Cooperative Agreement

The cost recovery provision in the proposed Addendum to Cooperative Agreement between South Coast AQMD and the Ports of Long Beach and Los Angeles establishes payments by the Ports to South Coast AQMD in order for South Coast AQMD to recover its reasonable costs associated with administration and management of the CAAP Plus Measure – Regional Off-Port Truck Charging and Fueling Infrastructure. Under this measure, the Ports will provide \$40 million in total, or \$20 million per Port, to South Coast AQMD to fund regional off-port charging and fueling infrastructure projects that support ZE port drayage truck operations. South Coast AQMD will be responsible for managing and distributing these funds to selected projects within a defined timeline, and the measure requires that South Coast AQMD and each Port enter into a subsequent MOU to determine administrative details such as payment schedules and reporting requirements. The cost recovery provision specifies that South Coast AQMD's reasonable costs incurred for fund administration and project management will be recovered through an administrative fee not to exceed ten percent of the total award per project.

Direction of Payment for Contract Defaults of Additional Measures of the Proposed Addendum to Cooperative Agreement into the Clean Air Mitigation Fund

The Clean Air Mitigation Fund, a government funding mechanism without involving a commitment to any specific project, was established in the original Cooperative Agreement and consists of financial consequences in the event that contractual obligations were not met. As specified in the original Cooperative Agreement, the Ports agreed to pay into the South Coast AQMD-managed Clean Air Mitigation Fund in the event of failure to complete specified actions within their control, and these provisions will continue to apply to the additional measures in the proposed Addendum. Specifically, Attachment A2 – CAAP Plus Measures – Port Emission Reduction Programs, Section H – Enforcement Provisions, directs the Ports to pay into the Clean Air Mitigation Fund for noncompliance with specified requirements in the additional measures.

CEQA ANALYSIS OF THE ADDITIONAL MEASURES IN THE PROPOSED ADDENDUM TO THE COOPERATIVE AGREEMENT

PROJECT BACKGROUND AND APPROACH FOR CEQA ANALYSIS

The Cooperative Agreement, which requires the Ports to prepare and implement charging and fueling infrastructure plans, originated from South Coast AQMD needing to seek emission reductions from commercial marine ports as part of its ongoing efforts to achieve attainment with the federal and state ambient air quality standards. Emission reductions from commercial marine ports can be achieved by shifting port-related mobile sources from current technologies, which rely on diesel fuel, to cleaner fuels or ZE technology, where feasible. The Proposed Addendum to the Cooperative Agreement seeks to expand upon this initial effort by including three additional measures requiring the Ports to enhance their current clean ship incentive programs to encourage port calls from the cleanest ocean-going vessels, to develop and implement a new incentive program to encourage utilization of zero-emission trucks, and to allocate funds to South Coast AQMD for regional off-port zero-emission truck charging and fueling infrastructure projects.

Initiatives to encourage this transition to cleaner technology were previously considered under several control measures that were adopted in South Coast AQMD's 2016 AQMP and 2022 AQMP, and the environmental impacts associated with implementing the control measures were analyzed in the Final Program EIRs for each AQMP. The analysis of the environmental impacts from the original Cooperative agreement relied on these prior CEQA documents.

As such, this section provides the history of the AQMP control measures and the corresponding CEQA analyses which are applicable to both the original Cooperative Agreement and the Proposed Addendum to the Cooperative Agreement. Similar to the CEQA analysis approach for the original Cooperative Agreement, this section compares the potential environmental impacts anticipated from activities associated with the additional measures in the proposed Addendum to the Cooperative Agreement, to the potential environmental impacts previously analyzed in the Final Program EIRs for the 2016 AQMP and 2022 AQMP for the port-specific control measures.

History of AQMP Control Measures Seeking Emission Reductions from Port Sources

Development of the 2016 AQMP⁵ included potential emission reduction strategies which contained a suite of facility-based mobile source measures. In particular, Control Measure MOB-01 – Emission Reductions at Commercial Marine Ports, of the 2016 AQMP built upon both Ports implementing their Clean Air Action Plan (CAAP) which was initiated in 2006 and was undergoing an update. The Ports of Los Angeles and Long Beach had exceeded the emission reduction goals in the CAAP, and the updates contained in the 2016 AQMP were expected to support achieving attainment with the ambient air quality standards. Although many of the actions implemented under the CAAP were voluntary and not committed into the State Implementation Plan (SIP), they have, over time, been incorporated into various regulatory frameworks by the California Air Resources Board (CARB), U.S. Environmental Protection Agency (U.S. EPA), and

⁵ South Coast AQMD, 2016 Air Quality Management Plan, March 2017. <https://www.aqmd.gov/home/air-quality/air-quality-management-plans/final-2016-aqmp>

international entities such as the International Maritime Organization, which resulted in achieved early emission reductions.

In December 2022, to address attainment of the 2015 8-hour ozone standard, the South Coast AQMD Governing Board adopted the 2022 AQMP.⁶ The development of the 2022 AQMP continued to emphasize the need for facility-based mobile source measures, which were first introduced in the 2016 AQMP, by continuing to focus on emissions from commercial marine ports via Control Measure MOB-01. The 2022 AQMP builds upon measures already in place from previous AQMPs by including a variety of additional strategies such as: 1) developing a rule or regulation; 2) accelerating the deployment of available cleaner technologies (e.g., zero emissions technologies, when cost-effective and feasible, and low-NOx technologies in other applications); 3) implementing best management practices; 4) accounting for co-benefits from existing programs (e.g., climate and energy efficiency); 5) providing incentives; and 6) implementing other Clean Air Act (CAA) measures to achieve the 2015 8-hour ozone standard. Control Measure MOB-01 in the 2022 AQMP builds upon its 2016 counterpart by expanding efforts aimed at reducing emissions of nitrogen oxides (NOx), volatile organic compounds (VOC), and particulate matter (PM) associated with port-related operations at the Ports of Los Angeles and Long Beach, by emphasizing rulemaking and incentives and/or other voluntary programs designed to facilitate infrastructure development for ZE fueling and charging, encourage rapid adoption of the cleanest available technologies, and mitigate emissions from both direct and indirect port sources.

The 2022 AQMP also included Control Measure MOB-15 – Zero Emission Infrastructure for Mobile Sources, which sought the development of a work plan designed to support and accelerate the deployment of ZE infrastructure needed for the widespread adoption of ZE vehicles and equipment. Implementation of MOB-15 requires substantial collaboration with state agencies, local utilities and various other stakeholders involved in the planning, design, permitting, construction, operation, and maintenance of ZE infrastructure in the South Coast AQMD. For example, collaborative efforts would require close coordination with local utilities on their energy demand analyses and identification of prioritized locations for ZE infrastructure, including the level of upgrades needed as well as coordination with city/county jurisdictions, as needed, to address any potential land use issues associated with siting the ZE infrastructure.

History of Prior CEQA Analyses Conducted for the 2022 AQMP, 2016 AQMP, and Original Cooperative Agreement, and Relationship to Additional Measures in Proposed Addendum to the Cooperative Agreement

At the time the 2022 AQMP and 2016 AQMP were developed, each plan was considered a “project” as defined by CEQA Guidelines Section 15378 and South Coast AQMD was the lead agency under CEQA because it was the “public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment.” (Public Resources Code Section 21067.) Further, since the South Coast AQMD Governing Board had the primary responsibility for approving the entirety of both projects, South Coast AQMD was the most appropriate public agency to act as lead agency for the projects. (CEQA Guidelines Section 15051(b).)

⁶ South Coast AQMD, 2022 Air Quality Management Plan, December 2022. <https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan>

The 2022 AQMP and 2016 AQMP each: 1) had environmental impacts which were evaluated in a Final Program EIR as part of implementing the various control measures, including but not limited to MOB-01 and MOB-15; and 2) were discretionary actions which were individually considered and approved by the South Coast AQMD Governing Board.

The Final Program EIRs for the 2022 AQMP and 2016 AQMP identified potentially significant impacts, and mitigation measures were adopted for each plan. Further, since mitigation measures were adopted for the 2022 AQMP and 2016 AQMP, Mitigation, Monitoring, and Reporting Plans, pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097 were also required and adopted. Further, because the Final Program EIRs for both AQMPs concluded that implementation of these two projects would have potentially significant and unavoidable adverse impacts on the environment, Findings were made pursuant to CEQA Guidelines Section 15091, and Statements of Overriding Considerations pursuant to CEQA Guidelines Section 15093 were adopted.

For both of these projects, a Program EIR was considered to be the appropriate document for each AQMP as set forth in CEQA Guidelines Section 15168 (a)(3) because each AQMP constituted a series of actions that can be characterized as one large project in connection with the issuance of rules, regulations, plans, or other general criteria required to govern the conduct of a continuing program. In addition, the use of a Program EIR had the following advantages by:

- Providing an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action;
- Ensuring a consideration of cumulative impacts that might be slighted in a case-by-case analysis;
- Avoiding duplicative reconsideration of basic policy considerations;
- Allowing consideration of broad policy alternatives and program-wide mitigation measures at an early time when the Lead Agency has greater flexibility to deal with basic problems of cumulative impacts; and
- Allowing its use with a later activity if the later activity is within the scope of the project analyzed in the Program EIR without requiring further environmental documents.

At the time the original Cooperative Agreement was developed, the proposed measures were considered a subset of the projects analyzed in the Final Program EIRs for the 2022 AQMP and 2016 AQMP because they were designed to implement the port-specific control measures (e.g., MOB-01 and MOB-15). The CEQA analysis for the original Cooperative Agreement, referred to as a “Use with Later Activities” analysis, compared the potential environmental impacts anticipated from the development and implementation of charging and fuel infrastructure plans to the potential environmental impacts previously analyzed in the Final Program EIRs for the 2016 AQMP and 2022 AQMP for the port-specific control measures (e.g., MOB-01 and MOB-15). The CEQA analysis for the development and implementation of charging and fuel infrastructure plans as set forth in the original Cooperative Agreement made the following conclusions:

- 1) The environmental impacts were within the scope of what was previously analyzed in the Final Program EIR for the 2022 AQMP for Control Measures MOB-01 – Emission Reductions at Commercial Marine Ports, and MOB-15 – Zero Emission Infrastructure for Mobile Sources, and Final Program EIR for the 2016 AQMP for Control Measure MOB-01;
- 2) No new Initial Study was required to be prepared leading to either an EIR or a Negative Declaration pursuant to CEQA Guidelines Section 15168(c)(2);
- 3) No new information was introduced which would cause new significant effects or substantially worsen or make more severe significant effects that were previously analyzed in the Final Program EIRs for the 2022 AQMP and 2016 AQMP;
- 4) No changes to the mitigation measures or alternatives previously considered in the Final Program EIRs for the 2022 AQMP and 2016 AQMP would be needed;
- 5) In accordance with CEQA Guidelines Section 15168(c)(2), a subsequent EIR was not required pursuant to Public Resources Code Section 21166 and CEQA Guidelines Section 15162; and
- 6) The development and implementation of charging and fuel infrastructure plans in accordance with the original Cooperative Agreement was considered a later activity within the scope of the Final Program EIRs for the 2022 AQMP and 2016 AQMP, and the Final Program EIRs for the 2022 AQMP and 2016 AQMP adequately described the later activity for the purposes of CEQA such that no new environmental document was required.

The currently proposed Addendum to the Cooperative Agreement contemplates adding three port-related measures as an enhancement to the original Cooperative Agreement. The currently proposed additional measures are also designed to implement the same port-specific control measures (e.g., MOB-01 and MOB-15). Thus, similar to the CEQA analysis for the original Cooperative Agreement, this section follows the same “Use with Later Activities” approach taken for the original Cooperative Agreement compares the potential environmental impacts anticipated from activities associated with the additional measures in the proposed Addendum to the potential environmental impacts previously analyzed in the Final Program EIRs for the 2016 AQMP and 2022 AQMP for the port-specific control measures.

Incorporation of Prior CEQA Analyses By Reference

The additional measures in the Proposed Addendum to the Cooperative Agreement involve the same port-specific control measures from the 2016 and 2022 AQMP (e.g., MOB-01 and MOB-15). Further, the prior CEQA analysis for the original Cooperative Agreement is directly applicable to the potential environmental impacts for the additional measures in the Proposed Addendum to the Cooperative Agreement. Therefore, the additional measures in the proposed Addendum to Cooperative Agreement are integrally related to the “Use with Later Activities” analysis conducted for the original Cooperative Agreement which relied on the 2022 AQMP and the 2016 AQMP for which two previous environmental analyses have been prepared: 1) the Final Program EIR for the 2022 AQMP which was certified by the South Coast AQMD Governing Board on December 2,

2022⁷; and 2) the Final Program EIR for the 2016 AQMP which was certified by the South Coast AQMD Governing Board on March 3, 2017.⁸

As such, the following CEQA documents have also been relied upon for analyzing the potential environmental impacts of the additional measures in the Proposed Addendum to the Cooperative Agreement and have been incorporated by reference pursuant to CEQA Guidelines Section 15150:

- 2022 AQMP, with the December 2022 Final Program EIR for the 2022 AQMP (State Clearinghouse No. 2022050287) and its corresponding Findings, Statement of Overriding Considerations, Mitigation, Monitoring, and Reporting Plan, and Notice of Determination;
- 2016 AQMP, with the March 2017 Final Program EIR for the 2016 AQMP (State Clearinghouse No. 2016071006) and its corresponding Findings, Statement of Overriding Considerations, Mitigation, Monitoring, and Reporting Plan, and Notice of Determination;
- “Use with Later Activities” Analysis for the Development and Implementation of the Charging and Fueling Infrastructure Plans in Accordance with the Cooperative Agreement between South Coast AQMD and the Ports of Long Beach and Los Angeles and its corresponding Notice of Determination, Approved in South Coast AQMD’s Governing Board Meeting on November 7, 2025

All of these aforementioned documents are available from the South Coast AQMD’s website at:

December 2022 Final Program EIR for the 2022 AQMP

Master webpage

<https://www.aqmd.gov/home/research/documents-reports/lead-agency-scaqmd-projects/south-coast-aqmd-projects---year-2022>

December 2022 Final Program EIR for the 2022 AQMP (including Appendices)

<https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-final-peir.pdf>

Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Plan

<https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-attachment1toresolution.pdf>

2022 AQMP

<https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan>

⁷ South Coast AQMD, Final Program Environmental Impact Report for the 2022 Air Quality Management Plan, December 2022. <https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-final-peir.pdf>

⁸ South Coast AQMD, Final Program Environmental Impact Report for the 2016 Air Quality Management Plan, March 2017. <https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf>

Notice of Determination for 2022 AQMP

<https://www.aqmd.gov/docs/default-source/ceqa/notices/notices-of-decision-or-determination/2022/2022-aqmp-nod.pdf>

March 2017 Final Program EIR for the 2016 AQMP**Master webpage**

<http://www.aqmd.gov/home/research/documents-reports/lead-agency-scaqmdprojects/scaqmd-projects---year-2017>

March 2017 Final Program EIR for the 2016 AQMP (without Appendices)

<https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfeir.pdf>

Appendices A through C

https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfeir_appendicesac.pdf

Appendices D through E

https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfeir_appendicesde.pdf

Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Plan

<https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2017/att2toresolutionfor-2016aqmp.pdf>

2016 AQMP

<https://www.aqmd.gov/home/air-quality/air-quality-management-plans/final-2016-aqmp>

Notice of Determination for 2016 AQMP

<https://www.aqmd.gov/docs/default-source/ceqa/notices/notices-of-decision-or-determination/2022/2022-aqmp-nod.pdf>

Cooperative Agreement Between South Coast AQMD and Ports of Long Beach and Los Angeles, Execute Cooperative Agreement Between South Coast AQMD and Ports of Long Beach and Los Angeles (Original Cooperative Agreement), and Approve Supporting Budget Actions Approved on November 2025**Item Number 30 of the Governing Board Meeting Agenda: November 7, 2025**

<https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-nov7-030.pdf>

Record of Approval/Approved Minutes for the November 7, 2025 South Coast AQMD Governing Board Meeting)

<https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-dec5-001.pdf>

Notice of Determination for Original Cooperative Agreement

https://www.aqmd.gov/docs/default-source/ceqa/notices/notices-of-decision-or-determination/2025/cooperative-agreement-for-ports_nod_flattened-ocr.pdf

Copies of these referenced documents may also be obtained from:

Lisa Tanaka/Public Advisor
South Coast AQMD
21865 Copley Drive, Diamond Bar, CA 91765
Phone: (909) 396-2432
Email: publicadvisor@aqmd.gov

“Use with Later Activities” Analysis for Additional Measures in Proposed Addendum to the Cooperative Agreement

As with the development and implementation of the charging and fueling infrastructure plans for the original Cooperative Agreement, the additional measures in the proposed Addendum to Cooperative Agreement also pertain to the previously adopted Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP and Control MOB-15 of the 2022 AQMP. As such, this Attachment examines whether the additional measures in the proposed Addendum to Cooperative Agreement qualifies as a later activity within the scope of the previous analyses conducted in the certified Final Program EIRs for the 2022 AQMP and the 2016 AQMP pursuant to CEQA Guidelines Section 15168 (c) – Use with Later Activities. Specifically, this Attachment: 1) compares the proposed later activity of the additional measures in the proposed Addendum to Cooperative Agreement with the previously approved programs related to Control Measure MOB-01 which was adopted in the 2022 AQMP and 2016 AQMP and Control Measure MOB-15 which was adopted in the 2022 AQMP; 2) summarizes the environmental impacts analyzed in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measures MOB-01 and MOB-15; 3) identifies the differences, if any, between the analyses of environmental impacts in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for the applicable control measures and the additional measures in the proposed Addendum to Cooperative Agreement and, as needed, identifies any other impact areas which may require further analysis; and 4) considers the evidence and determines whether: a) the additional measures in the proposed Addendum to Cooperative Agreement is a later activity within the scope of the programs approved earlier for the 2022 AQMP and 2016 AQMP; and b) the Final Program EIRs for the 2022 AQMP and the 2016 AQMP adequately describe the later activity of the additional measures in the proposed Addendum to Cooperative Agreement for the purposes of CEQA such that no new environmental document is required.

SUMMARY OF ENVIRONMENTAL IMPACTS OF ADDITIONAL MEASURES

The CEQA Guidelines require environmental documents to identify significant environmental effects that may result from a proposed project. (CEQA Guidelines Section 15126.2(a).) Direct and indirect significant effects of a project on the environment should be identified and described, with consideration given to both short- and long-term impacts. The discussion of environmental impacts may include, but is not limited to, the resources involved; physical changes; alterations of ecological systems; health and safety impacts caused by physical changes; and other aspects of the resources involved including water, scenic quality, and public services. If significant adverse environmental impacts are identified, the CEQA Guidelines require a discussion of measures that could either avoid or substantially reduce any adverse environmental impacts to the greatest extent feasible. (CEQA Guidelines Section 15126.4.)

The categories of environmental impacts to be studied in a CEQA document are established by CEQA (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (codified in Title 14 California Code of Regulations Section 15000 et seq.). In the CEQA Guidelines, Appendix G: Environmental Checklist Form, there are 20 environmental topic areas categories in which potential adverse impacts from a project are evaluated. The South Coast AQMD, as lead agency, has taken into consideration the environmental checklist questions in Appendix G, but has reorganized the contents to consolidate the environmental topic areas to avoid repetition. For example, South Coast AQMD's customized the environmental checklist by: 1) combining the topics of "air quality" and "greenhouse gas emissions" (GHG) into one section; 2) combining the topics of "cultural resources" and "tribal cultural resources" into one section; 3) separating the "hazards and hazardous materials" topic into two sections: "hazards and hazardous materials" and "solid and hazardous waste;" and 4) distributing the questions from the topic of "utilities/service systems" into other more specific environmental areas such as "energy," "hydrology and water quality," and "solid and hazardous waste." For each environmental topic area, per CEQA Guidelines Section 15064.7(a), "[a] threshold of significance is an identifiable quantitative, qualitative, or performance level of a particular environmental effect, noncompliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant." The South Coast AQMD has developed unique thresholds of significance for the determination of significance in accordance with CEQA Guidelines Section 15064.7(b).

The CEQA Guidelines also include provisions for the preparation of Program EIRs in connection with the issuance of plans, such as the 2022 AQMP and 2016 AQMP, to govern the conduct of a continuing program, including adoptions of broad policy programs as distinguished from those prepared for specific types of projects such as land use projects, for example. (CEQA Guidelines Section 15168.) A Program EIR also allows for the consideration of broad policy alternatives and program-wide mitigation measures at an early time when an agency has greater flexibility to deal with basic problems or cumulative impacts. (CEQA Guidelines Section 15168 (b)(4).) Lastly, a Program EIR also plays an important role in establishing a structure within which a CEQA review of future related actions can be effectively conducted. A Program EIR, by design, provides the basis for future environmental analyses and will allow future project specific CEQA documents, if necessary, to focus solely on the new effects or detailed environmental issues not previously considered. If an agency finds that no new effects could occur, or no new mitigation measures

would be required, the agency can approve the activity as being within the scope of the project covered by the Program EIR and no new environmental document would be required. (CEQA Guidelines Section 15168(c)(2).)

The Final Program EIR for the 2016 AQMP analyzed the impacts of the 2016 AQMP project on 18 environmental topic areas: aesthetics, agriculture and forestry resources, air quality and GHG emissions, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid and hazardous waste, transportation and traffic, and mandatory findings of significance. In 2019, the CEQA Guidelines were amended to add the environmental topic areas of tribal cultural resources and wildfires, and the transportation analysis was changed from Level of Service (LOS) to Vehicle Miles Traveled (VMT) with a corresponding update to the name of the environmental topic area from “transportation and traffic” to “transportation.” Thus, the Final Program EIR for the 2022 AQMP analyzed the impacts of implementing the various control measures in the 2022 AQMP on 19 environmental topic areas: aesthetics, agriculture and forestry resources, air quality and GHG emissions, biological resources, cultural and tribal cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid and hazardous waste, transportation, wildfire, and mandatory findings of significance.

The Final Program EIR for the 2022 AQMP concluded that the implementation of all of the control measures in the 2022 AQMP would result in potentially significant impacts for the following environmental topic areas: air quality and GHG emissions, energy, hazards and hazardous materials, hydrology and water quality, noise, and solid and hazardous waste. All other environmental topic areas were either concluded to have less than significant impacts or no impact. Mitigation measures to minimize significant impacts from implementation of the 2022 AQMP were adopted in the Mitigation, Monitoring, and Reporting Plan which can be found in Attachment 1 to the Governing Board Resolution for the Final Program EIR for the 2022 AQMP.⁹

The Final Program EIR for the 2016 AQMP concluded that the implementation of all of the control measures in the 2016 AQMP would result in potentially significant impacts for the following environmental topic areas: aesthetics, air quality and GHG emissions, energy, hazards and hazardous materials, hydrology and water quality, noise, solid and hazardous waste, and transportation and traffic. All other environmental topic areas were either concluded to have less than significant impacts or no impact. Mitigation measures to minimize significant impacts from implementation of the 2016 AQMP were adopted in the Mitigation, Monitoring, and Reporting Plan which can be found in Attachment 2 to the Governing Board Resolution for the Final Program EIR for the 2016 AQMP.¹⁰

⁹ South Coast AQMD, Attachment 1 to the Governing Board Resolution for the Final Program Environmental Impact Report for the 2022 Air Quality Management Plan, December 2022. <https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-attachment1toresolution.pdf>

¹⁰ South Coast AQMD, Attachment 2 to the Governing Board Resolution for the Final Program Environmental Impact Report for the 2016 Air Quality Management Plan, March 2017. <https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2017/att2toresolutionfor-2016aqmp.pdf>

Table 1 summarizes Control Measures MOB-01 and MOB-15 of the 2022 AQMP, and Control Measure MOB-01 of the 2016 AQMP, upon which the additional measures in the proposed Addendum to Cooperative Agreement relies, their effect of implementation and nature of potential impact(s), and which of the environmental topic areas are potentially adversely impacted by their implementation. It should be noted that Control Measure MOB-01 was concluded in the Final Program EIR for the 2022 AQMP to have potential adverse impacts related to the environmental topic areas of air quality and GHG, energy, hazards and hazardous materials, noise, and solid and hazardous waste, but no potential adverse impacts to the environmental topic area of hydrology and water quality. However, for other control measures in the 2022 AQMP, the Final Program EIR for the 2022 AQMP concluded that there would be potential adverse impacts to hydrology and water quality. In contrast, Control Measure MOB-15 of the 2022 AQMP was concluded not to have potential adverse impacts on any environmental topic area because it was administrative in nature. Control Measure MOB-01 was concluded in the Final Program EIR for the 2016 AQMP to have potential adverse impacts related to the environmental topic areas of aesthetics, air quality and GHG, energy, hazards and hazardous materials, hydrology and water quality, noise, solid and hazardous waste, and transportation and traffic.

Tables 2 and 3 summarize the analyses in the Final Program EIRs for the 2022 AQMP and 2016 AQMP associated with Control Measure MOB-01: physical changes expected, environmental topic areas affected according to level of significance impact, and the applicable mitigation measures. Because Control Measure MOB-15 of the 2022 AQMP is administrative in nature, no adverse environmental impacts were identified in the Final Program EIR.

Table 4 summarizes the physical changes expected, environmental topic areas affected, and the applicable mitigation measures associated with the additional measures in the proposed Addendum to Cooperative Agreement and compares the similarities to those analyzed for Control Measure MOB-01 in both the Final Program EIRs for the 2022 AQMP and 2016 AQMP. It should be noted that, while Control Measure MOB-01 of the 2016 AQMP contemplated the use of barge-based bonnet technology to reduce emissions from ocean going vessels, the additional measures in the proposed Addendum to Cooperative Agreement does not consider its use. Therefore, the environmental impacts resulting from use of barge-based bonnet technology (i.e., potentially significant aesthetics impacts) will not occur under the additional measures in the proposed Addendum to Cooperative Agreement.

Table 1. Environmental Topic Areas with Potential Adverse Impacts from Port-Related Control Measures

Control Measure Number	Title	Effect of Implementation and Nature of Potential Impact(s)	Potential Adverse Impact(s)							
			Aesthetics	Air Quality/ GHG	Energy	Hazards/ Hazardous Materials	Hydrology/ Water Quality	Noise	Solid/ Hazardous Waste	Transportation/ Traffic
MOB-01 in 2022 AQMP	Emission Reductions at Commercial Marine Ports	Infrastructure development required to achieve emission reductions at commercial marine ports from on-road heavy-duty vehicles, OGVs, cargo handling equipment, locomotives, and harbor craft may cause impacts to: 1) air quality and GHGs from construction activities, 2) energy due to increased demand for electricity, natural gas, and hydrogen, 3) hazards and hazardous materials from storage and handling of alternative fuels, and engine replacements, 4) noise during construction, and 5) solid and hazardous waste associated with engine replacements.	-	X	X	X	-	X	X	-
MOB-15 in 2022 AQMP	Zero Emission Infrastructure for Mobile Sources	Development of a work plan to support and accelerate the deployment of zero emission infrastructure needed for the widespread adoption of zero emission vehicles and equipment is administrative and does not require physical changes or construction activities. Therefore, it will not result in environmental impacts.	-	-	-	-	-	-	-	-
MOB-01 in 2016 AQMP	Emission Reductions at Commercial Marine Ports	Enforceable actions to achieve emission reductions may involve construction of infrastructure to provide support for new cleaner equipment or vehicles; use of bonnet systems on barges; increased use of natural gas, electricity, and alternative fuels; and early retirement of equipment.	X	X	X	X	X	X	X	X

Table 2. Analysis of Control Measure MOB-01 in the Final Program EIR for the 2022 AQMP

	Physical Changes Expected From MOB-01	Environmental Topic Areas with Potentially Significant Impacts	Adopted Mitigation Measures	Environmental Topic Areas with Less than Significant Impacts	Environmental Topic Areas with No Impacts
Construction	Construction and installation of charging and alternative fueling infrastructure for electricity and the storage and dispensing of alternative fuels for use in on-road heavy-duty vehicles, off-road equipment, locomotives, and marine vessels.	• Air Quality • Noise • Solid and Hazardous Waste	• Air Quality: AQ-1 to AQ-26 • Noise: NS-1 to NS-14 • Solid and Hazardous Waste: SHW-1 to SHW-3	• GHG	• Aesthetics • Agriculture and Forestry Resources • Biological Resources • Cultural and Tribal Cultural Resources • Geology and Soils • Hydrology and Water Quality • Land Use and Planning • Mineral Resources • Population and Housing • Public Services • Recreation • Transportation • Wildfire
Operation	Increased demand for electricity and natural gas, and increased production and use of alternative fuels. Potential acceleration in the purchase of zero-emission or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles, thereby increasing the scrapping of equipment and vehicles faster than would normally occur could result in physical changes.	• Energy • Hazards and Hazardous Materials	• Energy: E-1 to E-12	• Air Quality and GHG	

Table 3. Analysis of Control Measure MOB-01 in the Final Program EIR for the 2016 AQMP

	Physical Changes Expected From MOB-01	Environmental Topic Areas with Potentially Significant Impacts	Adopted Mitigation Measures	Environmental Topic Areas with Less than Significant Impacts	Environmental Topic Areas with No Impacts
Construction	Construction of infrastructure to provide support for new cleaner equipment or vehicles.	• Air Quality • Noise • Solid and Hazardous Waste • Transportation and Traffic	• Air Quality: AQ-1 to AQ-23 • Noise: NS-1 to NS-17 • Transportation and Traffic: TR-1	• GHG	• Agriculture and Forestry Resources • Biological Resources • Cultural and Tribal Cultural Resources
Operation	Use of barge-based bonnet systems to capture emissions from ocean-going vessels.	• Aesthetics • Transportation and Traffic	• Aesthetics: AE-1 to AE-5	• None	• Geology and Soils • Land Use and Planning • Mineral Resources • Population and Housing • Public Services • Recreation • Wildfire
	Increased demand for electricity and natural gas, and increased production and use of alternative fuels and fuel additives.	• Energy	• Energy: E-1 to E-7	• Air Quality and GHG • Hazards and Hazardous Materials • Hydrology and Water Quality	
	Potential acceleration in the purchase of zero-emission or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles, thereby increasing the scrapping of equipment and vehicles faster than would normally occur could result in physical changes.	• Solid and Hazardous Waste • Transportation and Traffic	None	• Hydrology and Water Quality	

Table 4. Comparison of Environmental Impacts between Control Measure MOB-01 and the Additional Measures in the Proposed Addendum to Cooperative Agreement

Additional Measures and Expected Physical Changes		Similarity to Environmental Topic Areas with Potentially Significant Impacts	Applicability of Adopted Mitigation Measures	Similarity to Environmental Topic Areas with Less than Significant Impacts	Similarity to Environmental Topic Areas with No Impacts
Construction	South Coast AQMD-led Measure: - Regional Off-Port Truck Charging and Fueling Infrastructure Measure	• Air Quality • Noise • Solid and Hazardous Waste • Transportation and Traffic	• Air Quality and GHG: AQ-1 to AQ-26 of the Final Program EIR for the 2022 AQMP; and AQ-1 to AQ-23 of the Final Program EIR for the 2016 AQMP • Noise: NS-1 to NS-14 of the Final Program EIR for the 2022 AQMP; and NS-1 to NS-17 of the Final Program EIR for the 2016 AQMP • Solid and Hazardous Waste: SHW-1 to SHW-3 of the Final Program EIR for the 2022 AQMP • Transportation: TR-1 of the Final Program EIR for the 2016 AQMP	• GHG	• Aesthetics • Agriculture and Forestry Resources • Biological Resources • Cultural and Tribal Cultural Resources • Energy • Geology and Soils • Hazards and Hazardous Materials • Hydrology and Water Quality • Land Use and Planning • Mineral Resources • Population and Housing • Public Services • Recreation • Wildfire
	<i>Construction and installation of charging and alternative fueling infrastructure for electricity, and the storage and dispensing of alternative fuels.</i>	<i>While the exact scope of future actions under the additional measure in the proposed Addendum to the Cooperative Agreement is still uncertain, similar or fewer potentially significant impacts are expected compared to those analyzed for construction activities associated with Control Measure MOB-01 in the 2022 and 2016 AQMPs.</i>	<i>The mitigation measures minimizing impacts from Control Measure MOB-01 of the 2022 and 2016 AQMPs were previously incorporated into the original Cooperative Agreement, are expected to apply to the additional measures in the proposed Addendum to the Cooperative Agreement, and are incorporated into this Addendum.</i>	<i>While the exact scope of future actions under the additional measure in the proposed Addendum to the Cooperative Agreement is still uncertain, similar or fewer less than significant impacts are expected compared to those analyzed for construction activities associated with Control Measure MOB-01 in the 2022 and 2016 AQMPs.</i>	<i>Same as for construction activities associated with Control Measure MOB-01 of the 2022 and 2016 AQMPs.</i>

Table 4. Comparison of Environmental Impacts between Control Measure MOB-01 and the Additional Measures in the Proposed Addendum to Cooperative Agreement (continued)

Additional Measures and Expected Physical Changes		Similarity to Environmental Topic Areas with Potentially Significant Impacts	Applicability of Adopted Mitigation Measures	Similarity to Environmental Topic Areas with Less than Significant Impacts	Similarity to Environmental Topic Areas with No Impacts
Operation	Port Emission Reduction Programs: - Enhanced Clean Ship Incentive Program - Zero Emission Truck Utilization Incentive South Coast AQMD-led Measure: - Regional Off-Port Truck Charging and Fueling Infrastructure Measure	• Energy • Hazards and Hazardous Materials	Energy: - E-1 to E-12 of the Final Program EIR for the 2022 AQMP; and - E-1 to E-7 of the Final Program EIR for the 2016 AQMP	• Air Quality and GHG • Hydrology and Water Quality	• Aesthetics • Agriculture and Forestry Resources • Biological Resources • Cultural and Tribal Cultural Resources • Geology and Soils • Land Use and Planning • Mineral Resources • Noise • Population and Housing • Public Services • Recreation • Solid and Hazardous Waste • Transportation • Wildfire
	<i>Increased demand for electricity and natural gas, and increased production and use of alternative fuels.</i>	<i>While the exact scope of future actions under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain, similar or fewer potentially significant impacts are expected compared to those anticipated for increased demand for electricity, natural gas, and alternative fuels from Control Measure MOB-01 of the 2022 and 2016 AQMPs.</i>	<i>The mitigation measures minimizing impacts on increased demand for electricity, natural gas, and alternative fuels from Control Measure MOB-01 of the 2022 and 2016 AQMPs were previously incorporated into the original Cooperative Agreement, are expected to apply to the additional measures in the proposed Addendum to the Cooperative Agreement, and are incorporated into this Addendum.</i>	<i>While the exact scope of future actions under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain, similar or fewer less than significant impacts are expected compared to those anticipated for increased demand for electricity, natural gas, and alternative fuels from Control Measure MOB-01 of the 2022 and 2016 AQMPs.</i>	<i>Same as for increased demand for electricity, natural gas, and alternative fuels from Control Measure MOB-01 of the 2022 and 2016 AQMPs.</i>

**Table 4. Comparison of Environmental Impacts between Control Measure MOB-01
and the Additional Measures in the Proposed Addendum to Cooperative Agreement (concluded)**

CAAP Plus Measures and Expected Physical Changes		Similarity to Environmental Topic Areas with Potentially Significant Impacts	Applicability of Adopted Mitigation Measures	Similarity to Environmental Topic Areas with Less than Significant Impacts	Similarity to Environmental Topic Areas with No Impacts
Operation	Port Emission Reduction Programs: - Enhanced Clean Ship Incentive Program - Zero Emission Truck Utilization Incentive South Coast AQMD-led Measure: - Regional Off-Port Truck Charging and Fueling Infrastructure Measure	• Solid and Hazardous Waste • Transportation and Traffic	• Solid and Hazardous Waste: SHW-1 to SHW-3 of the Final Program EIR for the 2022 AQMP	• Air Quality and GHG • Hydrology and Water Quality	• Aesthetics • Agriculture and Forestry Resources • Biological Resources • Cultural and Tribal Cultural Resources • Energy • Geology and Soils • Hazards and Hazardous Materials • Land Use and Planning • Mineral Resources • Noise • Population and Housing • Public Services • Recreation • Wildfire
	<i>Potential acceleration in the purchase of zero-emission or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles, thereby increasing the scrapping of equipment and vehicles faster than would normally occur could result in physical changes.</i>	<i>While the exact scope of future actions under the additional measures in the proposed Addendum to Cooperative Agreement is still uncertain, similar or fewer potentially significant impacts are expected compared to those anticipated for the potential acceleration in scrapping of equipment and vehicles from Control Measure MOB-01 of the 2022 and 2016 AQMPs.</i>	<i>The mitigation measures minimizing impacts on the potential acceleration in scrapping of equipment and vehicles from Control Measure MOB-01 of the 2022 and 2016 AQMPs were previously incorporated into the original Cooperative Agreement, are expected to apply to the additional measures in the proposed Addendum to the Cooperative Agreement, and are incorporated into this Addendum.</i>	<i>While the exact scope of future actions under the additional measures in the proposed Addendum to Cooperative Agreement is still uncertain, similar or fewer less than significant impacts are expected compared to those anticipated for the potential acceleration in scrapping of equipment and vehicles from Control Measure MOB-01 of the 2022 and 2016 AQMPs.</i>	<i>Same as for the potential acceleration in scrapping of equipment and vehicles from Control Measure MOB-01 of the 2022 and 2016 AQMPs.</i>

The additional measures in the proposed Addendum to the Cooperative Agreement implement Control Measures MOB-01 and MOB-15 of the 2022 AQMP, and Control Measure MOB-01 of the 2016 AQMP by seeking emission reductions associated with the Ports, including through deployment of zero emission infrastructure. Under the Regional Off-Port Truck Charging and Fueling Infrastructure Measure, the Ports will provide \$40 million in total to the South Coast AQMD to fund regional off-port ZE truck charging and fueling infrastructure projects.

The additional measures in the proposed Addendum to Cooperative Agreement could generate increased demand for electricity and alternative fuels to support zero-emission equipment and vehicle utilization in the South Coast Air Basin, which is the same outcome as what was anticipated for Control Measure MOB-01 of the 2022AQMP and 2016 AQMP. Under the Enhanced Clean Ship Incentive Program, each Port will enact enhancements to their respective Clean Ship Incentive Program to encourage ship calls via lower-emitting OGVs. Under the Zero Emission Truck Utilization Incentive, each Port will evaluate and develop an incentive program designed to encourage the deployment of ZE trucks to terminals. Under the Regional Off-Port Truck Charging and Fueling Infrastructure Measure, new off-port ZE truck charging and fueling infrastructure projects would be implemented. By encouraging the use of lower-emitting OGVs and ZE trucks, and increasing the availability of charging and fueling infrastructure, implementing the three additional measures may result in an increased demand for electricity and alternative fuels. Consequently, existing utility supply and distribution systems may require capacity upgrades to meet this demand. These enhancements would constitute off-site infrastructure improvements, encompassing electricity generation resources, transmission capacity, and distribution system capacity (such as additional substations and circuits), along with hydrogen fuel production, storage, and distribution systems.

The additional measures in the proposed Addendum to Cooperative Agreement will also likely accelerate the purchase of ZE-capable or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles and thus, increase the scrapping of equipment and vehicles faster than would normally occur, which is the same outcome as what was anticipated for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. Under the Enhanced Clean Ship Incentive Program, the Ports will encourage ship calls via lower-emitting OGVs. Under the Zero Emission Truck Utilization Incentive, the Ports will encourage the deployment of ZE trucks to terminals. Under the Regional Off-Port Truck Charging and Fueling Infrastructure Measure, new off-port ZE truck charging and fueling infrastructure projects would be implemented. By encouraging use of lower-emitting OGVs and ZE trucks, and increasing the availability of charging and fueling infrastructure, implementing the three additional measures may accelerate the purchase of ZE-capable or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles. All of these impacts associated with these infrastructure improvements and acceleration of cleaner technologies under the additional measures were previously analyzed in the Final EIRs for the 2022 AQMP and the 2016 AQMP.

As with the original Cooperative Agreement, the precise level and type of zero-emission infrastructure installations that would be associated with the additional measures in the proposed Addendum to Cooperative Agreement is unknown and may vary (e.g., fast or slow charging electrification, fast or slow fueling of hydrogen, etc.). Under the CAAP Plus Measure – Regional Off-Port Truck Charging and Fueling Infrastructure, South Coast AQMD must select suitable

projects to be funded by monies allocated by the Ports for the purpose of supporting off-port operations of zero-emission drayage trucks registered in the Ports Drayage Truck Registry. It is speculative to determine what specific impacts will occur as a result of the three additional measures beyond what has been previously forecasted and analyzed in accordance with CEQA Guidelines Section 15144 in the Final Program EIRs for the 2022 AQMP and 2016 AQMP. Predicting what applicants would propose without factual, supporting evidence is inappropriate and prohibited by CEQA because it would require speculation or conjecture (CEQA Guidelines Section 15145.). When project-level details and corresponding environmental information are not available and a particular impact is too speculative for evaluation, as is the case with the additional measures, no additional analysis of potential modifications that may occur at individual sites is required (CEQA Guidelines Section 15145.).

Lastly, Control Measure MOB-15 of the 2022 AQMP is administrative in nature such that no adverse environmental impacts were identified in the Final Program EIR for the 2022 AQMP, and the additional measures will not change the characterization of Control Measure MOB-15 being administrative in nature. Thus, the additional measures in the proposed Addendum to the Cooperative Agreement will not create new or worsened impacts that were not previously analyzed in the Final Program EIR for the 2022 AQMP for Control Measure MOB-15.

Thus, the previous analyses of the environmental impacts for Control Measures MOB-01 and MOB-15 of the 2022 AQMP in their Final Program EIR, and Control Measure MOB-01 of the 2016 AQMP in its Final Program EIR identify and analyze the same potential adverse impacts that are expected to result from implementing the additional measures in the proposed Addendum to Cooperative Agreement.

The analysis in the Final Program EIR for the 2022 AQMP determined that implementation of Control Measure MOB-01 has the potential to generate significant adverse impacts to air quality from construction, energy, hazards and hazardous waste, noise, and solid and hazardous waste; less than significant impacts to operational air quality and GHG; and no impacts to all other environmental topic areas. The analysis in the Final Program EIR for the 2016 AQMP determined that implementation of Control Measure MOB-01 has the potential to generate significant adverse impacts to aesthetics, air quality from construction, energy, noise, solid and hazardous waste, and transportation and traffic; less than significant impacts to operational air quality and GHG, hazards and hazardous materials and hydrology and water quality; and no impacts to all other environmental topic areas. The following discussion provides a summary of each environmental topic area and conclusion previously analyzed for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP and analyzes whether the additional measures in the proposed Addendum to Cooperative Agreement would create new or worsened impacts, or require new or revised mitigation measures.

ENVIRONMENTAL TOPIC AREAS WITH POTENTIALLY SIGNIFICANT IMPACTS

The Final Program EIR for the 2022 AQMP concluded that the implementation of all of the control measures in the 2022 AQMP would result in potentially significant impacts for the following environmental topic areas: air quality and GHG emissions, energy, hazards and hazardous materials, hydrology and water quality, noise, and solid and hazardous waste. Specific to the implementation of Control Measure MOB-01, the Final Program EIR for the 2022 AQMP analyzed and concluded potentially significant impacts to the environmental topic areas of air quality from construction, energy, hazards and hazardous materials, noise, and solid and hazardous waste.

The Final Program EIR for the 2016 AQMP concluded that the implementation of all of the control measures in the 2016 AQMP would result in potentially significant impacts for the following environmental topic areas: aesthetics, air quality and GHG emissions, energy, hazards and hazardous materials, hydrology and water quality, noise, solid and hazardous waste, and transportation and traffic. Specific to the implementation of Control Measure MOB-01, the Final Program EIR for the 2016 AQMP analyzed and concluded potentially significant impacts to the environmental topic area of aesthetics, air quality from construction, energy, noise, solid and hazardous waste, and transportation and traffic.

It should be noted that, while Control Measure MOB-01 of the 2016 AQMP contemplated the use of barge-based bonnet technology to reduce emissions from ocean going vessels, the additional measures in the proposed Addendum to Cooperative Agreement does not consider its use. Therefore, the environmental impacts resulting from use of barge-based bonnet technology (i.e., potentially significant aesthetics impacts) will not occur under the additional measures in the proposed Addendum to Cooperative Agreement. As such, the environmental topic area of aesthetics is discussed in the section entitled “Environmental Topic Areas with Less than Significant or No Impacts.”

The following section summarizes the analyses of potentially significant impacts from the implementing Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, upon which the additional measures in the proposed Addendum to Cooperative Agreement relies, for the topics of air quality from construction, energy, hazards and hazardous materials, noise, solid and hazardous waste, and transportation and traffic. The significance criteria, potential impacts, applicable mitigation measures, and cumulative impacts will be discussed for each environmental topic area.

Air Quality from Construction

Implementing control measures from both the 2022 AQMP and 2016 AQMP is expected to decrease operational emissions of criteria pollutants over the long-term, resulting in a benefit to air quality. However, in order to realize this benefit, various types of construction activities will be necessary to implement most control measures including Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. However, construction is generally characterized as a temporary, short-term activity which will contribute to adverse air quality impacts. Potentially significant impacts to air quality from construction will be discussed in this section, while less than significant impacts to air quality from operation and GHG emissions will be discussed in a later section entitled

“Environmental Topic Areas with Less than Significant or No Impacts.” The Final Program EIR for the 2022 AQMP considered and evaluated the construction and installation of infrastructure to support use of additional electricity and alternative fuels from Control Measure MOB-01. Similarly, the Final Program EIR for the 2016 AQMP evaluated construction impacts from Control Measure MOB-01 along with a suite of other control measures associated with installing infrastructure to provide support for new cleaner equipment or vehicles. The Final Program EIR for 2016 AQMP analyzed the potential air quality impacts from constructing infrastructure to provide support for new cleaner equipment or vehicles by focusing on the following key components: 1) development of baseline and future regional emission inventories for all quantifiable emissions sources in the Basin, as detailed in 2016 AQMP Appendix IV-A¹¹, which form the basis for understanding the magnitude of emissions associated with various construction phases; 2) assumption that all off-road equipment used in construction activities, including grading, paving, and the installation of air pollution control devices, contribute to construction emissions; 3) quantification of estimated emission from construction activities for each phase, including emissions from on-road vehicles transporting workers, vendors, and materials to and from construction sites; 4) comparison of estimated emissions from construction activities to established thresholds set by the South Coast AQMD to determine whether emissions are considered significant and could potentially lead to adverse localized air quality impacts; and 5) recognition that while emissions from individual construction projects at specific facilities may not exceed significance thresholds, concurrent, overlapping construction activities across multiple sites could exceed the significance thresholds. Based on the analysis, the Final Program EIR for the 2016 AQMP concluded significant construction air quality impacts and as such, identified and adopted mitigation measures to reduce construction emissions. These mitigation measures were designed to minimize the adverse environmental impacts while supporting the AQMP’s goal of achieving and maintaining compliance with the national and state ambient air quality standards across the region.

Significance Criteria

A threshold of significance is an identifiable quantitative, qualitative, or performance level of a particular environmental effect. Proposed projects that do not exceed the significance threshold for the effect under evaluation normally will be determined to be less than significant. Exceeding any significance threshold means the effect will normally be determined to be significant by the lead agency. (CEQA Guidelines Sections 15064(a) and (b)(2); Section 15064.7(a).)

To determine whether air quality and GHG emissions impacts from the 2022 AQMP and the 2016 AQMP were significant, the Final Program EIRs for the 2022 AQMP and 2016 AQMP estimated the potential emissions of criteria pollutants, toxic air contaminants, and GHGs and compared those estimates to the significance criteria in Table 5.

¹¹ South Coast AQMD, Appendix IV-A for the 2016 Air Quality Management Plan; <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-iv-a.pdf>

Table 5. South Coast AQMD Air Quality Significance Thresholds

Mass Daily Thresholds ^(a)		
Pollutant	Construction	Operation
NOx	100 lb/day	55 lb/day
VOC	75 lb/day	55 lb/day
PM10	150 lb/day	150 lb/day
PM2.5	55 lb/day	55 lb/day
SOx	150 lb/day	150 lb/day
CO	550 lb/day	550 lb/day
Lead	3 lb/day	3 lb/day
Toxic Air Contaminants, Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden ≥ 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO ₂ eq for industrial facilities	
Ambient Air Quality for Criteria Pollutants ^(b)		
NO2 1-hour average annual arithmetic mean	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM10 24-hour average annual average	10.4 µg/m ³ (construction) ^(c) and 2.5 µg/m ³ (operation) 1.0 µg/m ³	
PM2.5 24-hour average	10.4 µg/m ³ (construction) ^(c) and 2.5 µg/m ³ (operation)	
SO2 1-hour average 24-hour average	0.25 ppm (state) and 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 µg/m ³ (state)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day average Rolling 3-month average	1.5 µg/m ³ (state) 0.15 µg/m ³ (federal)	

a) Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993)

b) Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.

c) Ambient air quality threshold based on South Coast AQMD Rule 403.

KEY: lb/day = pounds per day

ppm = parts per million

 $\mu\text{g}/\text{m}^3$ = microgram per cubic meter $\geq$ = greater than or equal toMT/yr CO₂eq = metric tons per year of CO₂ equivalent $>$ = greater than

Revision: March 2023

Air Quality Impacts from Construction¹²

The Final Program EIR for the 2022 AQMP considered that implementation of Control Measure MOB-01 requires construction of infrastructure for fuel/energy producing facilities to be able to supply electricity, hydrogen, and natural gas for alternative-fueled off- and on-road vehicles and equipment (see Final Program EIR for the 2022 AQMP, Table 4.2-3). While the scope of what it would take to build the additional electricity generating equipment and alternative fuels production equipment at either existing or new facilities is unknown, emissions from major construction activities associated with capital improvement projects are typically greater and for a longer period of time than construction emissions resulting from the installation of air pollution control equipment. To illustrate potential overlapping construction activities on a peak day, the Final Program EIR for the 2022 AQMP presented a compilation of the estimated construction emissions typical of equipment replacement in residential and commercial settings, air pollution control equipment installations, with construction emission estimates for producing renewable or alternative fuels. While individually, most components of the construction activities would not have emissions exceeding the South Coast AQMD's air quality significance thresholds, it is foreseeable and likely that on any given day, construction activities associated with one or more new or existing air pollution control devices overlapping with other types of construction activities associated with producing alternative fuels in order to comply with the 2022 AQMP could occur at more than one facility. Based on the size of any single project, or if more than one facility were concurrently constructed on any given day, the emissions would exceed the South Coast AQMD's air quality significance thresholds. Therefore, construction emissions were considered potentially significant.

Because the construction air quality impacts from implementing the 2022 AQMP were concluded to be significant, feasible mitigation measures AQ-1 to AQ-26 for reducing impacts related to construction were adopted in the Final Program EIR for the 2022 AQMP, and these mitigation measures apply to Control Measure1 MOB-01, upon which the additional measures in the proposed Addendum to Cooperative Agreement relies (see pp. 4.2-22 to 4.2-24 of the Final Program EIR for the 2022 AQMP). Even after mitigation measures AQ-1 to AQ-26 were applied, the Final Program EIR for the 2022 AQMP concluded that construction air quality impacts would remain significant.

The Final Program EIR for the 2016 AQMP considered that implementation of Control Measure MOB-01 had the potential to generate construction emission impacts from constructing infrastructure to provide support for new cleaner equipment or vehicles. The Final Program EIR for the 2016 AQMP analyzed a typical construction scenario of an air pollution control device at an existing facility which consisted of the following phases and associated on-road and off-road construction equipment:

- Grading/Site Preparation: Rubber Tired Dozers, Tractors/Loaders/Backhoes, Construction Workers' Vehicles, and Medium Duty Trucks

¹² See Section 4.2.5.1 Criteria Pollutants – Construction Activities of the Final Program EIR for the 2022 AQMP and Section 4.1.6.1 Criteria Pollutants – Construction Activities of the Final Program EIR for the 2016 AQMP

- Paving: Pavers, Cement/Mortar Mixers, Rollers, Construction Workers' Vehicles, and Medium Duty Trucks
- Installing/Constructing Air Pollution Control Device(s): Cranes, Forklifts, Tractors/Loaders/Backhoes, Construction Workers' Vehicles, and Medium Duty Trucks

Construction emissions were estimated for these various construction phases associated with the installation of air pollution control devices. In addition, criteria pollutant emissions were calculated for all on-road vehicles transporting workers, vendors, and material removal and delivery. The analysis assumed that each phase must be entirely completed before the next phase can commence such that there would be no overlap of construction phases for the construction of the new control devices. Table 6, which is Table 4.1-3 Typical Peak Daily Construction Emissions for Control Devices in the Basin (lbs/day) from the Final Program EIR for the 2016 AQMP, summarizes the construction emissions that would be expected to occur as a result of installing one air pollution control device at one facility. Although the construction emissions at each individual facility might not exceed the South Coast AQMD air quality significance thresholds, it was foreseeable and likely that on any given day, construction of one or more control devices in order to comply with the 2016 AQMP could occur at more than one facility. Based on the results in Table 6, if more than four facilities or more than four control devices were concurrently constructed on any given day, the emissions would exceed the South Coast AQMD air quality significance thresholds. Therefore, construction emissions were considered significant.

**Table 6. Typical Peak Daily Construction Emissions
for Control Devices in the Basin (lbs/day)**

Source Category	VOC	NOx	CO	SOx	PM10	PM2.5
Grading/Site Preparation	2.7	25	11	0.0	3.9	1.6
Paving	0.2	12	8	0.01	0.7	0.7
Device Installation	3.4	30	15	0.0	1.4	1.3
Maximum Emissions (1 Facility)	3.4	30	15	0.01	3.9	1.6
Maximum Emissions (4 Facilities)	13.6	120	60	0.04	15.6	6.4
South Coast AQMD Air Quality Significance Thresholds	75	100	550	150	150	55
Significant? (YES/NO)	NO	YES	NO	NO	NO	NO

Because the analysis Final Program EIR for the 2016 AQMP concluded that the construction air quality were significant, feasible mitigation measures AQ-1 to AQ-23 for reducing impacts related to construction were adopted, and these mitigation measures are applicable to Control Measure MOB-01, upon which the additional measures in the proposed Addendum to Cooperative Agreement relies (see pp. 4.1-54 to 4.1-56 of the Final Program EIR for the 2016 AQMP). Even after mitigation measures AQ-1 to AQ-23 were applied, the Final Program EIR for the 2016 AQMP concluded that construction air quality impacts would remain significant.

Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Construction Air Quality¹³

Mitigation measures AQ-1 to AQ-26 of the Final Program EIR for the 2022 AQMP and mitigation measures AQ-1 to AQ-23 of the Final Program EIR for the 2016 AQMP are presented side-by-side in Table 7. Because the analysis conducted in the Final Program EIR for the 2022 AQMP reflects the most recent best practices, owners and operators of equipment required to mitigate air quality impacts from construction are recommended to utilize the mitigation measures of the Final Program EIR for the 2022 AQMP in the event of a conflict between mitigation measures that would apply in a given situation.

¹³ See Section 4.2.5.1 Criteria Pollutants – Construction Activities of the Final Program EIR for the 2022 AQMP and Section 4.7.1 Mitigation Measures of the Final Program EIR for the 2016 AQMP

**Table 7. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP
for Construction Air Quality**

2022 AQMP	2016 AQMP
AQ-1 Develop a Construction Emission Management Plan to minimize emissions from vehicles including, but not limited to: consolidating truck deliveries so as to minimize the number of trucks on a peak day; scheduling deliveries to avoid peak hour traffic conditions; describing truck routing; describing deliveries including logging delivery times; describing entry/exit points; identifying locations of parking; identifying construction schedule; and prohibiting truck idling in excess of five consecutive minutes or another time-frame as allowed by the California Code of Regulations, Title 13 Section 2485 – CARB’s Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. The Construction Emission Management Plan shall be submitted to South Coast AQMD – PRDI/CEQA for approval prior to the start of construction. At a minimum, the Construction Emission Management Plan would include the following types of mitigation measures and Best Management Practices. AQ-2 Tune and maintain all construction equipment to be in compliance with the manufacturer’s recommended maintenance schedule and specifications that optimize emissions without nullifying engine warranties. All maintenance records for each equipment and their construction contractor(s) shall be made available for inspection and remain onsite for a period of at least two years from completion of construction.	AQ-1 During construction, require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export). If the Lead Agency determines that 2010 model year or newer diesel trucks cannot be obtained, the Lead Agency shall instead require the use of trucks that meet EPA 2007 model year NOx emissions requirements. AQ-2 Require all on-site construction equipment to meet the following: - All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. - A copy of each unit’s certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment. - Encourage construction contractors to apply for SCAQMD “SOON” funding incentives. The “SOON” program provides funds to accelerate the cleanup of off-road diesel vehicles, such as heavy-duty construction equipment. More information on this program can be found at the following website: http://www.aqmd.gov/tao/Implementation/SOONProgram.htm.

**Table 7. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP
for Construction Air Quality (continued)**

2022 AQMP	2016 AQMP
AQ-3 Survey and document the construction areas and identify all construction areas that are served by electricity. Onsite electricity, rather than temporary power generators, shall be used in all construction areas that are demonstrated to be served by electricity. This documentation shall be provided as part of the Construction Emissions Management Plan. AQ-4 Require the use of electric or alternative-fueled (i.e., renewable combustion fuels and hydrogen) construction equipment, if available, including but not limited to, concrete/industrial saws, pumps, aerial lifts, material hoist, air compressors, forklifts, excavator, wheel loader, and soil compactors. AQ-5 Require all off-road diesel-powered construction equipment rated greater than 50 hp to meet Tier-4 off-road emission standards at a minimum. In addition, if not already supplied with a factory-equipped diesel particulate filter, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. Construction equipment shall incorporate, where feasible, emissions-reducing technology such as hybrid drives and specific fuel economy standards. In the event that any equipment required under this mitigation measure is not available, the project proponent shall provide documentation in the Construction Emissions Management Plan or associated subsequent status reports as information becomes available.	AQ-3 Prohibit vehicles and construction equipment from idling longer than five minutes at the construction site by including these restrictions in the construction company contract(s) and by posting signs on-site, unless the exceptions in the CARB regulations which pertain to idling requirements are applicable. AQ-4 All on-road heavy-duty diesel trucks or equipment with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater shall comply with EPA 2007 on-road emission standards for PM and NOx (0.01 gram per brake horsepower – hour (g/bhp-hr) and at least 0.2 g/bhp-hr, respectively). AQ-5 Maintain construction equipment tuned up and with two to four-degree retard diesel engine timing or tuned to manufacturer’s recommended specifications that optimize emissions without nullifying engine warranties. AQ-6 The project proponent shall survey and document the proposed project’s construction areas and identify all construction areas that are served by electricity. Onsite electricity, rather than temporary power generators, shall be used in all construction areas that are demonstrated to be served by electricity. AQ-7 Provide temporary traffic controls such as a flag person, during all phases of significant construction activity to maintain smooth traffic flow. AQ-8 Provide dedicated turn lanes for the movement of construction trucks and equipment on- and off-site.

**Table 7. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP
for Construction Air Quality (continued)**

2022 AQMP	2016 AQMP
AQ-6 Require the use of zero-emission (ZE) or near-zero emission (NZE) on-road haul trucks such as heavy-duty trucks with natural gas engines that meet CARB'S adopted optional NO_x emissions standard. AQ-7 Provide electric vehicle (EV) charging stations or at a minimum, provide the electrical infrastructure and electrical panels which shall be appropriately sized. Electrical hookups should be provided for trucks to plug in any onboard auxiliary equipment. AQ-8 Provide temporary traffic controls such as a flag person, during all phases of significant construction activity to maintain smooth traffic flow, where necessary. AQ-9 Provide dedicated turn lanes for the movement of construction trucks and equipment on- and off-site, where applicable. AQ-10 Clearly identify truck routes with trailblazer signs to guide and ensure that the route shall avoid congested streets and sensitive land uses (e.g., residences, schools, day care centers, etc.), where applicable. AQ-11 Improve traffic flow by signal synchronization, where applicable and ensure that check-in point for trucks is inside the project site. AQ-12 Ensure that vehicle traffic inside the project site is as far away as feasible from sensitive receptors.	AQ-9 Re-route construction trucks away from congested streets or sensitive receptor areas. AQ-10 Improve traffic flow by signal synchronization. AQ-11 Reduce traffic speeds on all unpaved roads to 15 mph or less. AQ-12 Prohibit truck idling in excess of five minutes, on- and off-site. AQ-13 Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable. AQ-14 Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph. AQ-15 Suspend all construction activities that generate air pollutant emissions during first stage Smog alerts. AQ-16 Configure construction parking to minimize traffic interference. AQ-17 Use alternative clean fueled off-road equipment or give extra points in the bidding process for contractors committing to use such equipment. AQ-18 Require covering of all trucks hauling dirt, sand, soil, or other loose materials.

**Table 7. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP
for Construction Air Quality (continued)**

2022 AQMP	2016 AQMP
AQ-13 Restrict overnight truck parking in sensitive land uses by providing overnight truck parking inside the project site. AQ-14 Design the project such that truck entrances and exits are not facing sensitive receptors and trucks will not travel past sensitive land uses to enter or leave the project site. AQ-15 Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less. AQ-16 Prohibit truck idling in excess of five minutes, on- and off-site. AQ-17 Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable. AQ-18 Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph. AQ-19 Suspend use of all construction activities that generate air pollutant emissions during first stage smog alerts. AQ-20 Configure construction parking to minimize traffic interference. AQ-21 Require covering of all trucks hauling dirt, sand, soil, or other loose materials.	AQ-19 Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site for each trip. AQ-20 Apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more). AQ-21 Replace ground cover in disturbed areas as quickly as possible to minimize dust. AQ-22 Pave road and road shoulders. AQ-23 Sweep streets at the end of the day with SCAQMD Rule 1186 and 1186.1 compliant sweepers if visible soil is carried

**Table 7. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP
for Construction Air Quality (concluded)**

2022 AQMP	2016 AQMP
AQ-22 Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site for each trip. AQ-23 Apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more). AQ-24 Replace ground cover in disturbed areas as quickly as possible to minimize dust. AQ-25 Pave road and road shoulders, where applicable. AQ-26 Sweep streets at the end of the day with sweepers compliant with South Coast AQMD Rules 1186 and 1186.1 if visible soil is carried onto adjacent public paved roads (recommend water sweepers that utilize reclaimed water).	

Cumulative Impacts¹⁴

The Final Program EIR for the 2022 AQMP concluded that implementation of the 2022 AQMP control measures could result in significant adverse air quality impacts during construction because: 1) it is foreseeable and likely that on any given day, construction activities associated with one or more new or existing air pollution control devices overlapping with other types of construction activities associated with producing alternative fuels in order to comply with the 2022 AQMP could occur at more than one facility; and 2) based on the size of any single project, or if more than one facility were concurrently constructed on any given day, the emissions would exceed the South Coast AQMD's air quality significance thresholds. When combined with past, present, and reasonably foreseeable activities, in particular with transportation projects projected in the Southern California Association of Governments (SCAG) Connect SoCal Plan¹⁵ and the CARB 2022 State SIP Strategy¹⁶, the 2022 AQMP would contribute to cumulatively considerable impacts to air quality related to criteria pollutant emissions during construction, a significant, unavoidable cumulative impact. No additional mitigation measures to reduce the significant cumulative impacts to air quality from construction were identified. Cumulative impacts to air quality from construction for past, present, and reasonably foreseeable future projects would remain significant and unavoidable.

The Final Program EIR for 2016 AQMP concluded that implementation of the 2016 AQMP control measures would result in significant adverse air quality impacts during construction because it is foreseeable and likely that on any given day, construction of one or more control devices in order to comply with the 2016 AQMP could occur at more than one facility, and if more than four facilities or more than four control devices were concurrently constructed on any given day, the emissions would exceed the South Coast AQMD's air quality significance thresholds. The 2016 AQMP control measures would result in significant adverse air quality impacts during construction and, when combined with past, present, and reasonably foreseeable activities, and in particular with transportation projects projected in the 2016 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS)¹⁷, would contribute to cumulatively considerable impacts to air quality impacts during construction identified in the 2016 RTP/SCS, therefore resulting in a significant cumulative impact. No additional mitigation measures to reduce the significant cumulative impacts to air quality impacts during construction were identified. Cumulative impacts to air quality impacts during construction from implementation of the 2016 AQMP would remain significant and unavoidable.

¹⁴ See Section 4.2.7 Cumulative Air Quality and GHG Emissions Impacts and Mitigation Measures of the Final Program EIR for the 2022 AQMP and Section 5.4.1 Cumulative Impacts of the Final Program EIR for the 2016 AQMP

¹⁵ Southern California Association of Governments, Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy), May 2020. <https://scag.ca.gov/read-plan-adopted-final-connect-socal-2020>

¹⁶ California Air Resources Board, 2022 State Strategy for the State Implementation Plan (2022 State SIP Strategy), 6. <https://ww2.arb.ca.gov/resources/documents/2022-state-strategy-state-implementation-plan-2022-state-sip-strategy>

¹⁷ SCAG, The 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy, April 2016, <https://scag.ca.gov/sites/main/files/file-attachments/f2016rtpscs.pdf>.

Summary of Construction Air Quality Analyses

As explained in the section titled “Summary of Environmental Impacts of Additional Measures”, the Regional Off-Port Truck Charging and Fueling Infrastructure Measure would result in the deployment of zero-emission infrastructure in a similar manner to what was originally contemplated for Control Measures MOB-01 and MOB-15 of the 2022 AQMP, and Control Measure MOB-01 of the 2016 AQMP. Specifically, the Enhanced Clean Ship Incentive Program, the Zero Emission Truck Utilization Incentive, and the Regional Off-Port Truck Charging and Fueling Infrastructure Measure could generate increased demand for electricity and alternative fuels to support zero-emission equipment and vehicle utilization in the South Coast Air Basin similar to what was anticipated to occur under Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. These three additional measures could accelerate the purchase of ZE-capable or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles similar to what was anticipated for Control Measure MOB-01 of the 2022 and 2016 AQMPs.

Table 8 presents a summary of the construction air quality analyses conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. While the exact scope of the future actions that may occur under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain, the nature of the physical changes that would occur are expected to be the same or similar compared to those anticipated for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. Further, the potentially significant air quality construction impacts identified for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP will be the same or similar if the additional measures are implemented.

In addition, the air quality mitigation measures from Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, which were adopted to reduce the air quality impacts from construction associated with the installation of charging and fueling infrastructure for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, were previously incorporated into the original Cooperative Agreement and are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. As such, these air quality mitigation measures have been incorporated into the proposed Addendum to the Cooperative Agreement and will remain in effect.

The additional measures in the proposed Addendum to the Cooperative Agreement do not change the reasonably foreseeable activities resulting from implementing the 2022 AQMP, 2016 AQMP, and other projects considered in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP, such as the SCAG Connect SoCal Plan and the CARB 2022 State SIP Strategy. Relative to cumulative effects, implementation of the additional measures, which are designed to implement Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, is expected to represent a subset of the overall significant construction air quality impacts previously identified in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP. Therefore, the conclusion of significant and unavoidable cumulative construction air quality impacts in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP will continue to apply to the additional measures, and no new or additional cumulative impacts beyond those previously evaluated are expected.

Thus, the construction air quality analyses conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP adequately describe the potential air quality impacts during construction and the associated mitigation measures which are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. The additional measures in the proposed Addendum to the Cooperative Agreement do not add new significant air quality impacts during construction or make the previously identified significant impacts worse. For these reasons, the additional measures in the proposed Addendum to the Cooperative Agreement do not require new or modified mitigation measures. The previously adopted mitigation measures have been incorporated into the proposed Addendum to the Cooperative Agreement and will remain in effect.

**Table 8. Summary of Air Quality from Construction Analyses
in the Final Program EIRs for the 2022 AQMP and 2016 AQMP**

Significance Criteria	Potentially Significant Impacts	Adopted Mitigation Measures	Cumulative Impacts
Air Quality impacts are significant if any of the following conditions occur: • A project and/or projects that exceed(s) significance threshold identified by the lead agency. - <i>Air Quality impacts are considered significant under specific conditions.</i> - <i>Significance is determined by exceeding identified quantitative, qualitative, or performance thresholds for environmental effects.</i> - <i>Projects that have emissions less than these thresholds are typically deemed less than significant.</i> - <i>The evaluation of air quality and GHG emissions impact compares estimated emissions to air quality significance thresholds in Table A-5.</i>	Implementation of Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP would cause potentially significant air quality impacts from: • Construction of infrastructure for zero-emission technologies and electricity, and support for new cleaner equipment or vehicles, • Increase in electricity demand due to increased usage of zero-emission technologies installed at the commercial marine ports, • Installation of air pollution devices at the commercial marine ports, and • Increase in natural gas demand to produce electricity	• AQ-1 to AQ-26 of the Final Program EIR for the 2022 AQMP; and • AQ-1 to AQ-23 of the Final Program EIR for the 2016 AQMP	Cumulative impacts to air quality for past, present, and reasonably foreseeable future projects would remain significant and unavoidable for criteria pollutant emissions during construction.

Energy

Both the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP identified the following physical changes associated with implementation of Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, upon which the additional measures in the proposed Addendum to Cooperative Agreement relies, to cause potential adverse energy impacts: 1) increase in electricity demand due to increased usage of zero-emission technologies, 2) increase in natural gas demand to produce electricity, and 3) increased production and use of alternative fuels (e.g., hydrogen).

Significance Criteria

Energy impacts are significant if any of the following conditions occur:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable energy resources in a wasteful and/or inefficient manner.

Energy Impacts from Electricity Demand¹⁸

The Final Program EIR for the 2022 AQMP analyzed potential increases in electricity demand according to the types of sources, and Control Measure MOB-01, which seeks to identify actions that will result in additional emission reductions at commercial ports, was grouped with other mobile sources. Table 9 is a subset of Table 4.3-3 Potential Electricity Use for Mobile Sources Relying on Incentive Programs, from the Final Program EIR for the 2022 AQMP, and illustrates that the vehicles affected by Control Measure MOB-01 contribute to an estimated increase of Basin-wide annual electricity use by approximately 160.5 gigawatt-hours (GWh) per year.

¹⁸ See Section 4.3.3.2 Electricity of the Final Program EIR for the 2022 AQMP and Section 4.2.4.1 Electricity of the Final Program EIR for the 2016 AQMP

**Table 9. Potential Electricity Use for Mobile Sources Relying on Incentive Programs
Related to Control Measure MOB-01**

Mobile Source Sector	Project Type	Affected Population	Electricity Rate	Potential Electricity Use (GWh/year)
Heavy-Duty Vehicles	Replacement	8,214	1 kWh/mile at 16,600 miles/year	136.4
Off-Road Construction	Repower	656	1 kWh/mile at 16,600 miles/year	10.9
Off-Road Construction	Replacement	365	1 kWh/mile at 16,600 miles/year	6.1
Other Off-Road and CHE	Replacement	428	1 kWh/mile at 16,600 miles/year	7.1
Total				160.5

Key: kWh = kilowatt-hour; GWh = gigawatt-hour

The Final Program EIR for the 2022 AQMP considered Basin-wide electricity use as a basis for analyzing the potential energy impacts due to electricity demand. Statewide electricity consumption was more than 279,000 GWh in 2020, with approximately 118,200 GWh (42 percent) in the South Coast Air Basin. (California Energy Commission (CEC), 2021.) CEC estimated an increase in electricity demand of about 1.6 percent annually through 2035. (CEC, 2021.) By applying that growth rate, the total electricity use in California would be approximately 354,000 GWh by 2035. Approximately 150,000 GWh (42 percent) of that would be within the South Coast Air Basin (assuming the percentage attributed to the South Coast Air Basin remains the same). The 2022 AQMP control measures would then increase the electricity demand by an additional estimated 13,429 GWh (approximately 11 percent over 2020 consumption and nine percent over the CEC projected growth) and this amount does not consider the electricity that may be needed to operate additional air pollution control equipment or to convert combustion equipment to fully electric. Thus, the overall potential increase in electricity demand could be higher.

In order for utilities to be able to provide sufficient electricity to meet future demands, the use of additional energy storage systems (e.g., battery arrays) is also a key component for being able to store electricity at the time when resources are available (e.g., when the sun shines and the wind blows), and to use that stored electricity at a later time. Further, the analysis in the Final Program EIR for the 2022 AQMP conservatively assumed that all sources affected by a control measure with the potential to increase demand for electricity, would use electricity rather than other forms of energy. In addition, any increase in electricity demand would likely result in a concurrent reduction in demand for other types of fuels, particularly petroleum fuels. Because the control measures in the 2022 AQMP were developed with the goal of attaining the federal ozone standard, the successful implementation of some of the control measures relied on the use of electricity in order to reduce NO_x emissions, an overall air quality benefit for the region. Therefore, the 2022

AQMP was expected to result in a substantial depletion of existing energy (specifically electricity) resource supplies.

Even with energy conservation programs in effect in California, additional electricity would be needed, and power plants would be required to supply the projected increase in electricity demand and general population growth. While increased demand for electricity would occur due to general population growth, additional increases in electricity demand beyond general population growth would be expected if all of the control measures in the 2022 AQMP were implemented. The implementation of all the control measures was expected to result in an overall increase of greater than approximately 11 percent of the existing electricity use for residential, commercial, and mobile sources. This increase, along with the increases in electricity associated with other state programs and mandates, was expected to exceed the electrical generating capacity of the system. Thus, the electricity demand impacts from implementing the 2022 AQMP were concluded in the Final Program EIR to be significant.

Because the energy impacts from implementing the 2022 AQMP were expected to be significant for electricity demand, feasible mitigation measures E-1 to E-12 for reducing impacts related to potential electricity demand were adopted in the Final Program EIR for the 2022 AQMP (see pp. 4.3-21 to 4.3-22 of the Final Program EIR for the 2022 AQMP). Even after mitigation measures E-1 to E-12 were applied, electricity demand impacts would remain significant.

The Final Program EIR for the 2016 AQMP similarly anticipated that the mobile source control measures in the 2016 AQMP would increase the electricity demand in the Basin, and the analysis relied on Basin-wide electricity use to evaluate the potential energy impacts from electricity demand. The anticipated shift of cars, trucks, off-road vehicles, and marine vessels from gasoline and diesel fuels to electricity was projected to create an additional electrical load demand.

At the time of developing the 2016 AQMP, the estimated baseline electricity use in 2014 (the baseline year relied upon for the analysis) in Los Angeles, Orange, Riverside, and San Bernardino counties was about 120,960 GWh (CEC, 2016, see Table 3.3-1 of the Final Program EIR for the 2016 AQMP.) The Final Program EIR for the 2016 AQMP concluded that the amount of electricity that would be needed to charge vehicles represented a relatively small portion of the overall electricity used (about 1 percent) in the four counties. At the time, the CEC estimated an increase in electricity demand of about 1 to 1.3 percent per year through 2026. (CEC, 2016a.) Based on that growth rate, the total projected electricity use was projected to be approximately 135,475 to 140,000 GWh by 2024 and approximately 141,532 to 147,692 GWh by 2031. As explained earlier in this section, a similar analysis and calculations which relied on more recent baseline data and growth factors were conducted in the Final Program EIR for the 2022 AQMP and those estimates supersede the estimates contained in the Final Program EIR for the 2016 AQMP.

Relative to the existing electricity use and the projected future peak electricity demand, implementation of all the control measures was expected to result in an overall increase of 7.86 percent of the existing electricity use by 2024 and 12.7 percent of the existing electricity use by 2031. While these projected increases were expected to be within the electric generating capacity of the region at the time the analysis of the 2016 AQMP was conducted, the increase in electricity was considered to be potentially significant because it exceeded one percent of supplies, which is

a numerical surrogate that South Coast AQMD relies upon for determining whether the amount of electricity needed would result in a substantial depletion of existing energy resource supplies and the current capacities of electricity utilities as noted in the South Coast AQMD's energy significance thresholds. Further, there was potential for electrical requirements for other control measures for which the electrical demand could not be estimated at the time of the 2016 AQMP. Thus, the energy impacts resulting from potential increases in electricity demand as part of implementing the 2016 AQMP were concluded to be significant.

The peak daily demands for increased electricity associated with further electrification of mobile sources and the energy impacts could be minimized by charging electric vehicles or other equipment at night when the electricity demand is low. Further, the analysis assumed that all sources affected by a control measure with the potential to increase the demand for electricity and would use electricity rather than substituting other types of energy. In addition, any increase in electricity demand would likely result in a concurrent reduction in demand for other types of fuels, particularly petroleum-based fuels. The 2016 AQMP was not expected to result in the use of large amounts of fuel or energy resources or result in the use of fuel or energy resources in a wasteful manner. However, the 2016 AQMP included incentives to shift from using diesel and gasoline fuels to increasing the electrification of stationary and mobile sources. Depending on the location and the amount of energy needed, the electricity portions of existing energy conservation plans that have been adopted by facilities would need to be updated. Therefore, the 2016 AQMP was determined to potentially conflict with existing adopted energy conservation plans. Because the 2016 AQMP could result in a substantial increase in electricity demand at a level greater than one percent of the existing electricity use in the Basin, the projected increases to electricity demand were concluded to be potentially significant.

Because the electricity demand impacts from implementing the 2016 AQMP were concluded to be significant, feasible mitigation measures E-1 to E-7 for reducing these impacts were adopted in the Final Program EIR for the 2016 AQMP (see page 4.2-24 of the Final Program EIR for the 2016 AQMP). Even after mitigation measures E-1 to E-7 were applied, the electricity demand impacts would remain significant.

Energy Impacts from Natural Gas Demand¹⁹

Control measures in the 2022 AQMP were expected to result in an increase in demand for natural gas primarily associated with the production of electricity in the short term. While the electrical grid needs to generate electricity that is comprised of 100 percent renewable energy by 2045 per Senate Bill 100 (SB 100, De León)²⁰ (and short-term natural gas usage for the production of electricity will cease), additional sources of electricity would be required in order to meet the 2035 goals of the 2022 AQMP.

There are critical interdependencies between electricity and the natural gas system reliability in California. Natural gas-fired electricity generation has been an integral part of the electricity system, providing baseload power. It has also served as the backstop during drought conditions

¹⁹ See Section 4.3.3.3 Natural Gas of the Final Program EIR for the 2022 AQMP and Section 4.2.4.2 Natural Gas of the Final Program EIR for the 2016 AQMP

²⁰ Senate Bill 100, https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB100.

that reduce the availability of hydroelectric power generation. The role of natural gas-fired electricity generation in the electricity system is shifting with the addition of large amounts of renewable generation, primarily solar and wind. The large influx of renewable energy on the grid has reduced natural gas produced electricity from 53 percent of total electric generation in 2010 to 48 percent in 2020. Renewables have displaced a portion of daytime generation previously provided by natural gas, but the intermittency of solar and wind resources necessitates flexible resources that can quickly come on-line when the sun sets, or winds stop blowing. (CEC, 2021.) Some of the control measures in the 2022 AQMP may result in an increase in the use of natural gas in medium- and heavy-duty on road vehicles. Expanded use of alternative fuels in medium-duty and heavy-duty trucks using more efficient, advanced natural gas engine technologies would be expected to reduce the use of diesel fuel. Natural gas-fired medium- and heavy-duty vehicles are an attractive option to diesel-fueled vehicles because they emit fewer criteria pollutants and toxic components without emitting diesel PM.

Ultimately, as natural gas is and continues to be generally widely available, natural gas supplies are not expected to be limited as a result of implementing the 2022 AQMP. The combined increase in natural gas demand needed for producing electricity and hydrogen and for fueling vehicles could be somewhat offset over the long-term by a decrease in demand for natural gas appliances in commercial and residential setting. However, over the short-term, the natural gas demand is expected to increase. Based upon these considerations, significant adverse energy impacts relating to natural gas demand were expected from implementing the 2022 AQMP.

Because the natural gas demand impacts from implementing the 2022 AQMP were concluded to be significant, feasible mitigation measures E-8 to E-9 for reducing these impacts were adopted in the Final Program EIR for the 2022 AQMP (see page 4.3-26 of the Final Program EIR for the 2022 AQMP). Even after mitigation measures E-8 and E-9 were applied, natural gas demand impacts would remain significant.

The Final Program EIR for the 2016 AQMP similarly projected that the control measures in the 2016 AQMP would increase the natural gas demand in the Basin. Specifically, the mobile source control measures were seen as having the potential for encouraging the use of natural gas as a fuel to offset the use of petroleum fuels while the projected increased demand for electricity would also require additional natural gas since most of the power plants in California generate electricity from equipment that uses natural gas. However, the Final Program EIR for the 2016 AQMP noted that natural gas supplies were abundant as a result of technological innovations, and the natural gas outlook, which in 2007 predicted that 700 trillion cubic feet of natural gas would be economically recoverable, was increased to nearly 1,400 trillion cubic feet of natural gas, a 100 percent increase. (CEC, 2013.) Therefore, the Final Program EIR for the 2016 AQMP concluded that implementation of the 2016 AQMP would have a less than significant impact to energy from natural gas demand. Because the natural gas demand impacts were concluded to be less than significant, mitigation measures were not required or adopted.

Energy Impacts from Hydrogen Demand²¹

Both the Final Program EIRs for the 2022 AQMP and 2016 AQMP considered a Basin-wide shift from conventional petroleum fuels to alternative fuels: electricity, natural gas, biodiesel and renewable diesel, ethanol and ethanol blends, hydrogen, propane, methanol, and renewable energy. While the additional measures in the proposed Addendum to the Cooperative Agreement does not specify or require particular alternative fuels to be used, electricity and hydrogen are expected to be the primary choices for zero emission options. The topic of electricity was previously discussed in this Attachment, so the following section summarizes the analysis conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP relative to hydrogen.

There is growing interest and financial support for the use of hydrogen-powered fuel cells to power cars, trucks, homes, and businesses. As opposed to alternative fuel vehicles which burn fuel in a combustion engine to produce usable energy, a hydrogen fuel cell electric vehicle (FCEV) relies on an electrochemical reaction between hydrogen (from the fuel tank) and oxygen to produce useful electrical energy along with water and heat as waste products. Current hydrogen vehicles in California consist of demonstration fuel cell passenger cars, internal combustion engine passenger cars, fuel cell buses, and hybrid fuel cell buses. Despite continuing improvements in performance and fuel cell system durability, challenges remain for broad commercialization of FCEV technology. These include system integration and optimization, and access to and price of hydrogen fuel (a big hurdle to the use of fuel cell vehicle adoption). (CEC, 2021.)

The deployment of both FCEVs and the associated hydrogen fueling infrastructure is mainly for commercial applications in California, with a growing commercial deployment. As such, hydrogen fueling for transportation vehicles is not widely offered for retail sale. Executive Order B-48-18 requires the development of 200 hydrogen stations in California by 2025.²² At the time the 2022 AQMP was developed, there were 55 public and private hydrogen fueling stations operating in the United States and only 10 of these offered public fueling. There were 23 hydrogen fueling stations operating in California, with nine accessible to the public. However, there are ongoing CEC-funded projects which increased the total number of publicly available hydrogen stations in California to 54 which will help support the deployment of FCEVs in urban retail markets. CEC expects that hydrogen infrastructure will first be deployed in a few select urban markets and then phased into a wider set of strategic urban areas before it is expanded into a nationwide network. (CEC, 2021a.) The California Fuel Cell Partnership provides an on-line hydrogen fuel station map (<https://cafcp.org/stationmap>) which shows the status of fueling locations as open, off-line, under construction, in-process for permitting, or planned. Data from the CEC's website currently show that 30 publicly available hydrogen fueling stations are open in the South Coast Air Basin with 18 in Los Angeles County, 11 in Orange County, one in Riverside County and none in San Bernardino County.²³ However, data pertaining to the amount of hydrogen available at each location is not available. Hydrogen suppliers are expected to include major oil companies that currently provide gasoline fuel to retail stations, many of which also operate hydrogen plants to produce hydrogen

²¹ See Section 4.3.3.5.4 Hydrogen of the Final Program EIR for the 2022 AQMP and Section 4.2.4.4.3 Hydrogen of the Final Program EIR for the 2016 AQMP

²² Executive Order B-48-18, <https://www.library.ca.gov/wp-content/uploads/GovernmentPublications/executive-order-proclamation/39-B-48-18.pdf>

²³ CEC, Hydrogen Refueling Stations in California, <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics-collection/hydrogen>, data last updated May 23, 2024, website accessed June 27, 2024.

as a transportation fuel. However, existing hydrogen plants currently operate at full capacity, largely to produce petroleum fuels. Therefore, additional hydrogen would need to be produced to support the use of hydrogen as an alternative fuel.

One goal of the 2022 AQMP was to shift from conventional petroleum fuels to low NOx or zero emission technologies, including hydrogen. The 2022 AQMP does not mandate hydrogen fuel use by fleet operators, and further technology demonstration and deployment of hydrogen vehicles larger than passenger cars (i.e., medium- and heavy-duty vehicles) is still needed. The hybrid and electric vehicle technologies and deployment are much further developed than the hydrogen fuel cell vehicles for industrial and commercial uses (i.e., heavy-duty truck uses). Therefore, early advancement of light-duty FCEVs along with the further development of heavy-duty FCEVs is expected to increase hydrogen demand for mobile sources. Little excess capacity is available to meet the increase in hydrogen demand and additional production facilities will be necessary. Thus, the increased demand for hydrogen fuel was concluded to have significant impacts.

Because the hydrogen demand impacts from implementing the 2022 AQMP were concluded to be significant, the Final Program EIR for the 2022 AQMP adopted feasible mitigation measures E-10 to E-12 for reducing energy impacts related to hydrogen demand (see page 4.3-33 of the Final Program EIR for the 2022 AQMP). Even after mitigation measures E-10 to E-12 are applied, the hydrogen demand impacts would remain significant.

The Final Program EIR for the 2016 AQMP similarly analyzed the growing interest and support for the use of hydrogen-powered fuel cells. However, at the time of adoption of the 2016 AQMP, the development and market deployment of hybrid and electric vehicles was much further along than for hydrogen fuel cell vehicles such that projected hydrogen demand was not expected to require additional hydrogen capacity. Therefore, the Final Program EIR for the 2016 AQMP concluded that implementation of the 2016 AQMP would have less than significant energy impacts relative to hydrogen demand. Since the hydrogen demand impacts were concluded to be less than significant, mitigation measures were not required or adopted.

Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Energy Impacts²⁴

Mitigation measures E-1 to E-12 of the Final Program EIR for the 2022 AQMP and mitigation measures E-1 to E-7 of the Final Program EIR for the 2016 AQMP are presented side-by-side in Table 10. Because the analysis conducted for the Final Program EIR for the 2022 AQMP reflects the most recent best practices, owners and operators of equipment required to mitigate energy impacts are recommended to utilize the mitigation measures of the Final Program EIR for the 2022 AQMP in the event of a conflict between mitigation measures that would apply in a given situation.

²⁴ See Section 4.3.3 Potential Energy Impacts and Mitigation Measures of the Final Program EIR for the 2022 AQMP and Section 4.2.5 Mitigation Measures of the Final Program EIR for the 2016 AQMP

Table 10. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Energy

2022 AQMP	2016 AQMP
E-1 Project sponsors should pursue incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation during electricity generation. E-2 Utilities should increase capacity of existing transmission lines to meet forecast demand that supports sustainable growth where feasible and appropriate in coordination with local planning agencies. E-3 Project sponsors should submit projected electricity calculations to the local electricity provider for any project anticipated to require substantial electricity consumption. Any infrastructure improvements necessary should be completed according to the specifications of the electricity provider. E-4 Project sponsors should include energy analyses in environmental documentation with the goal of conserving energy through the wise and efficient use of energy. E-5 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging charging of electrical vehicles and other mobile sources during off-peak hours. E-6 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging the use of catenary or way-side electrical systems developed for transportation systems to operate during off-peak hours.	E-1 Project sponsors should pursue incentives to encourage the use of energy efficient equipment and vehicles and promote energy conservation. E-2 Utilities should increase the capacity of existing transmission lines to meet forecast demand that supports sustainable growth, where feasible and appropriate, in coordination with local planning agencies. E-3 Project sponsors should submit projected electricity calculations to the local electricity provider for any project anticipated to require substantial electricity consumption. Any infrastructure improvements necessary should be completed according to the specifications of the electricity provider. E-4 Project sponsors should include energy analyses in environmental documentation (e.g., CEQA document) with the goal of conserving energy through the wise and efficient use of energy. E-5 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging the charging of electrical vehicles and other mobile sources during off-peak hours. E-6 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging the use of catenary or way-side electrical systems developed for transportation systems to operate during off-peak hours.

**Table 10. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP
for Energy (concluded)**

2022 AQMP	2016 AQMP
E-7 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging the use of electrified stationary sources during off-peak hours. E-8 Projects that require a substantial increase in natural gas demand should consider the use of renewable gas, where available and feasible, including biofuel landfill gas and gas produced from renewable fuels projects. E-9 Project sponsors should submit projected natural gas demand use to the local natural gas provider for any project anticipated to require substantial natural gas consumption. Any infrastructure improvements necessary should be completed according to the specifications of the natural gas provider. E-10 Project sponsors should pursue incentives to encourage the use of energy efficient equipment and vehicles, and promote energy conservation associated with hydrogen production. E-11 Project sponsors should site new facilities in areas where infrastructure exists to reduce the amount of energy necessary to build new hydrogen production facilities. E-12 Project sponsors should pursue hydrogen production and delivery through the most energy efficient, least environmentally impactful methods, where feasible.	E-7 Project sponsors should evaluate the potential for reducing peak energy demand by encouraging the use of electrified stationary sources during off-peak hours (e.g., cargo handling equipment).

Cumulative Impacts²⁵

The Final Program EIR for the 2022 AQMP concluded that implementation of the 2022 AQMP could result in significant adverse electricity consumption impacts because the potential electricity usage increase would exceed baseline electricity consumption by an estimated 11 percent. Significant impacts were also concluded for natural gas and hydrogen demand. When combined with the Connect SoCal Plan, the SIP strategies, state policies, and other past, present, and reasonably foreseeable activities, the analysis in the Final Program EIR concluded that implementation of the 2022 AQMP control measures would result in a significant increase in electricity, natural gas, and hydrogen demand which may not currently be available, and would contribute to cumulatively considerable impacts. No additional mitigation measures to reduce the significant cumulative impacts to energy were identified. Cumulative impacts to energy demand for past, present, and reasonably foreseeable future projects would remain significant and unavoidable for electricity, natural gas, and hydrogen demand.

The Final Program EIR for 2016 AQMP concluded that implementation of the 2016 AQMP control measures would result in significant adverse electricity consumption impacts because the potential electricity usage increase would exceed baseline electricity consumption by 7.8 to 12.7 percent. No significant impacts on natural gas supplies and petroleum fuels associated with the 2016 AQMP were identified because of the anticipated reduction in future demand and wide availability of natural gas. No significant impacts on hydrogen were identified because hydrogen demand was not expected to require additional hydrogen capacity. The 2016 AQMP control measures would result in significant adverse energy demand impacts and, when combined with past, present, and reasonably foreseeable activities, and in particular with transportation projects projected in the 2016 RTP/SCS, would contribute to cumulatively considerable impacts to energy identified in the 2016 RTP/SCS, therefore resulting in a significant cumulative impact. No additional mitigation measures to reduce the significant cumulative impacts to energy were identified. Cumulative impacts to energy from implementation of the 2016 AQMP would remain significant and unavoidable.

Summary of Energy Analyses

As explained in the section titled “Summary of Environmental Impacts of Additional Measures”, the Regional Off-Port Truck Charging and Fueling Infrastructure Measure would result in the deployment of zero-emission infrastructure in a similar manner to what was originally contemplated for Control Measures MOB-01 and MOB-15 of the 2022 AQMP, and Control Measure MOB-01 of the 2016 AQMP. Specifically, the Enhanced Clean Ship Incentive Program, the Zero Emission Truck Utilization Incentive, and the Regional Off-Port Truck Charging and Fueling Infrastructure Measure could generate increased demand for electricity and alternative fuels to support zero-emission equipment and vehicle utilization in the South Coast Air Basin similar to what was anticipated to occur under Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. These three additional measures could accelerate the purchase of ZE-capable or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles similar to what was anticipated for Control Measure MOB-01 of the 2022 and 2016 AQMPs.

²⁵ See Section 4.3.5 Cumulative Energy Impacts and Mitigation Measures of the Final Program EIR for the 2022 AQMP and Section 5.7.1 Cumulative Impacts of the Final Program EIR for the 2016 AQMP

Table 11 presents a summary of the energy analyses conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. While the exact scope of the future actions that may occur under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain, the nature of the physical changes that would occur are expected to be the same or similar compared to those anticipated for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. Further, the potentially significant energy impacts identified for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP will be the same or similar if the additional measures are implemented.

In addition, the energy mitigation measures from Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, which were adopted to reduce the energy impacts associated with the increased demand for electricity and natural gas, and increased production and use of alternative fuels for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, were previously incorporated into the original Cooperative Agreement and are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. As such, these energy mitigation measures have been incorporated into the proposed Addendum to the Cooperative Agreement and will remain in effect.

The additional measures in the proposed Addendum to the Cooperative Agreement do not change the reasonably foreseeable activities resulting from implementing the 2022 AQMP, 2016 AQMP, and other projects considered in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP. Relative to cumulative effects, implementation of the additional measures, which are designed to implement Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, is expected to represent a subset of the overall significant energy impacts previously identified in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP. Therefore, the conclusion of significant and unavoidable cumulative energy demand impacts in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP will continue to apply to the additional measures, and no new or additional cumulative impacts beyond those previously evaluated are expected.

Thus, the energy demand analyses conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP adequately describe the potential energy impacts and associated mitigation measures which are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. The additional measures in the proposed Addendum to the Cooperative Agreement do not add new significant energy impacts or make the previously identified significant impacts worse. For these reasons, the additional measures in the proposed Addendum to the Cooperative Agreement do not require new or modified mitigation measures. The previously adopted mitigation measures have been incorporated into the proposed Addendum to the Cooperative Agreement and will remain in effect.

Table 11. Summary of Energy Analyses in the Final Program EIRs for the 2022 AQMP and 2016 AQMP

Significance Criteria	Potentially Significant Impacts	Mitigation Measures	Cumulative Impacts
Energy impacts are significant if any of the following conditions occur: • The project conflicts with adopted energy conservation plans or standards. • The project results in substantial depletion of existing energy resource supplies. • An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities. • The project uses non-renewable energy resources in a wasteful and/or inefficient manner.	Implementation of Control Measure MOB-01 from the 2022 AQMP would cause potentially significant energy impacts from: • Increase in electricity demand due to increased usage of zero-emission technologies • Increase in hydrogen demand in mobile sources, and • Increase in natural gas demand to produce electricity Implementation of Control Measure MOB-01 from the 2016 AQMP would cause potentially significant energy impacts from: • Increase in electricity demand due to increased usage of zero-emission technologies • Increase in alternative fuels and fuel additives demand, and • Increase in natural gas demand to produce electricity	• E-1 to E-12 of the Final Program EIR for the 2022 AQMP; and • E-1 to E-7 of the Final Program EIR for the 2016 AQMP	Cumulative impacts to energy demand for past, present, and reasonably foreseeable future projects would remain significant and unavoidable for electricity, hydrogen, and natural gas demand.

Hazards and Hazardous Materials

Both the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP identified the increased use of alternative fuels to be a potential adverse hazards and hazardous materials impact associated with implementation of Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, upon which the additional measures in the proposed Addendum to Cooperative Agreement relies. The Final Program EIR for the 2022 AQMP also identified and analyzed potential adverse hazards and hazardous materials impacts associated with production of hydrogen. While the additional measures in the proposed Cooperative Agreement does not specify or require particular alternative fuels to be used, batteries (electricity) and hydrogen are expected to be the primary choices for zero emission options. The following discussion will summarize the analysis conducted for the use of batteries in electric vehicles and hydrogen in the Final Program EIRs for the 2022 AQMP and 2016 AQMP.

Significance Criteria

Hazards and hazardous materials impacts are significant if any of the following conditions occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment, or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Hazards and Hazardous Materials Impacts from Use of Batteries in Electric Vehicles²⁶

The control measures in the 2022 AQMP focus on maximizing the implementation of zero emission and low NOx technologies which are expected to include electrification of mobile sources (light-duty vehicles, medium-duty vehicles, and heavy-duty vehicles). Electric and hybrid vehicles (hybrids) both use electricity as part of their fuel system. Electric vehicles rely purely on electric power stored in batteries. Hybrids also use batteries as part of their fuel supply; however, hybrids supplement their electric demand by using gasoline engines to generate either mechanical or electric power on demand. Since gasoline is a conventional fuel, any difference in hazards associated with hybrid and electric vehicles would be from the batteries.

Battery technologies in electric vehicles have primarily included nickel-metal hydride (NiMH) and lithium ion (Li-ion). Electric vehicles require high-energy batteries (i.e., batteries that store significant quantities of energy, retain it efficiently, and discharge it at a high rate). Li-ion batteries are the most commonly used batteries in electric vehicles because of their high energy density which allows them to store large amounts of energy, low self-discharge rate which allows them to

²⁶ See Section 4.4.3.2.1 Electric and Hybrid Vehicles of the Final Program EIR for the 2022 AQMP and Section 4.3.4.2.7 Electric/Hybrid of the Final Program EIR for the 2016 AQMP

retain a charge, and excellent electrochemical potential which allows high-power discharge). (NTSB, 2020.) Li-ion batteries are also lighter in weight than other battery types used in electric vehicles.

NiMH batteries can generate hydrogen gas if overcharged, which can lead to explosions without proper venting. In 1996, the International Center for Technology Assessment (ICTA) conducted a comprehensive review of the safety concerns associated with the use of electric vehicles. The ICTA found that risk of hydrogen emissions during stressful conditions has been virtually eliminated by the use of seals and proper valve regulation. By following the National Electric Codes (NECs) and the Society of Automotive Engineers (SAE) recommended safety practices and guidelines for the operation and maintenance of electric vehicles and hybrids, any hydrogen gas risk during battery recharging would be eliminated. (ICTA, 1996.)

Fires in electric vehicles powered by high-voltage Li-ion pose a risk of electric shock in the event of a damaged Li-ion battery. A further risk is that damaged cells in the battery can experience uncontrolled increases in temperature and pressure (thermal runaway), which can lead to hazards such as battery reignition and fire. The risks of electric shock and battery reignition/fire arise from the stranded energy that remains in a damaged battery, and the fires can generate large amounts of acrid smoke. (NTSB, 2020.)

In response to fires in electric vehicles, the National Transportation Safety Board (NTSB) performed an investigation on the fire hazards associated with Li-ion batteries in electric vehicles and concluded the following:

1. Manufacturers' emergency response guides provide sufficient vehicle-specific information for disconnecting an electric vehicle's high-voltage system when the high-voltage disconnects are accessible and undamaged by crash forces.
2. Crash damage and resulting fires may prevent first responders from accessing the high-voltage disconnects in electric vehicles.
3. The instructions in most manufacturers' emergency response guides for fighting high-voltage Li-ion battery fires lack vehicle-specific details on suppressing the fires.
4. Thermal runaway and multiple battery reignitions after initial fire suppression are safety risks in high-voltage Li-ion battery fires.
5. The energy remaining in a damaged high-voltage Li-ion battery (stranded energy) poses a risk of electric shock and creates the potential for thermal runaway that can result in battery reignition and fire.
6. High-voltage Li-ion batteries in electric vehicles, when damaged by crash forces or internal battery failure, present special challenges to first and second responders because of insufficient information from manufacturers on procedures for mitigating the risks of stranded energy.
7. Storing an electric vehicle with a damaged high-voltage Li-ion battery inside the recommended 50-foot radius clear area may be infeasible at tow or storage yards.

8. Electric vehicle manufacturers should use the International Organization for Standardization standard 17840 template to present emergency response information.
9. Action by the National Highway Traffic Safety Administration (NHTSA) to incorporate scoring relative to the availability of a manufacturer's emergency response guide and its adherence to the International Organization for Standardization standard 17840 and SAE International recommended practice J2990 into the U.S. New Car Assessment Program, would be an incentive for manufacturers of vehicles sold in the United States with high-voltage Li-ion battery systems to comply with those standards.
10. Although exiting standards address damage sustained by high-voltage Li-ion battery systems in survivable crashes, they do not address high-speed, high-severity crashes resulting in damage to high-voltage Li-ion batteries and the associated stranded energy.

Based on their findings, the NTSB made the following recommendations:

1. The NHTSA when determining a vehicle's U.S. New Car Assessment Program score, should factor in the availability of a manufacturer's emergency response guide and its adherence to the International Organization for Standardization standard 17840 and SAE International recommended practice J2990.
2. The NHTSA should convene a coalition of stakeholders to continue research on ways to mitigate or deenergize the stranded energy in high-voltage Li-ion batteries and to reduce the hazards associated with thermal runaway resulting from high-speed, high severity crashes.
3. Electric vehicle manufacturers should model the emergency response guides on International Organization for Standardization standard 17840 (as included in SAE International recommended practice J2990) and incorporate vehicle-specific information on: 1) fighting high-voltage Li-ion battery fires; 2) mitigating thermal runaway and the risk of high-voltage Li-ion battery reignition; 3) mitigating the risks associated with stranded energy in high-voltage Li-ion batteries, both during the initial emergency response and before moving a damaged electric vehicle from the scene; and 4) safely storing an electric vehicle that has a damaged high-voltage Li-ion battery.
4. The National Fire Protection Association (NFPA), the International Association of Fire Chiefs, the International Association of Fire Fighters, the National Alternative Fuels Training Consortium, the National Volunteer Fire Council, and the Towing and Recovery Association of America should inform members about the circumstances of the fire risks described in this report and provide guidance to emergency personnel who respond to high-voltage Li-ion battery fires in electric vehicles.

While electric cars may have fire risks, a recent study shows that they are less likely to cause a vehicle fire than either gas-powered or hybrid vehicles. Data from the NTSB was used to track the number of car fires, and it was compared to sales data from the Bureau of Transportation Statistics. The data showed that for every 100,000 vehicles sold, hybrid-powered vehicles (which use gasoline) were involved in about 3,475 fires and conventional gasoline-powered vehicles were involved in approximately 1,530 fires while electric vehicles were involved in approximately 25 fires. Gasoline-powered vehicles and hybrid vehicles rely on combustion, in whole or in part,

respectively, to function, while the electric cars rely on 100 percent electricity. (AutoinsuranceEZ, 2022.) Based on the results from the study, electric vehicles were concluded to not be inherently more dangerous than conventional gasoline-fueled or hybrid vehicles, but electric vehicle fires tend to be more difficult than gasoline fires to extinguish. (AutoinsuranceEZ, 2022.)

The likelihood to overheat or ignite is increased if the batteries are poorly packaged, damaged, or exposed to a fire or a heat source. However, when packaged and handled properly, Li-ion batteries pose a minimal threat to the environment.²⁷ (DOT, 2014.) As noted in the aforementioned study, internal combustion engines also can result in fires and other hazards; therefore, switching to battery power would not likely result in an increased fire risk. Therefore, the Final Program EIR for the 2022 AQMP concluded that implementation of the 2022 AQMP would have a less than significant impact to hazards and hazardous materials from use of electric vehicles and batteries. Because impacts were concluded to be less than significant, mitigation measures were not required or adopted.

The Final Program EIR for the 2016 AQMP similarly analyzed NiMH and Li-ion as the most common battery technologies used in modern EVs and hybrids. The Final Program EIR noted that there had been in a shift away from nickel metal hydride batteries in EV's to lithium-ion batteries (UN, 2010.) NHTSA performed an investigation on the fire hazards associated with Li-ion batteries in EVs, and concluded that EVs do not pose a greater risk of fire than gasoline-powered vehicles. When Li-ion batteries are being charged, they can generate hydrogen gas that is explosive in certain concentrations, but this hazard exists with lead-acid batteries as well as other types of batteries so the hazards associated with charging Li-ion batteries are expected to be similar to the hazards associated with lead-acid batteries. Overall, the fire hazards associated with an electric vehicle were expected to be less than a conventional vehicle because there would be no leak or spills of petroleum fuel (gas or diesel) that is flammable in the event of an accident. All electrical propulsion vehicles must comply with Federal Motor Vehicle Safety Standard (FMVSS) 305, which specifies performance requirements for limiting electrolyte spillage, retaining propulsion batteries, and electrically isolating the chassis from the high-voltage system during a crash event. FMVSS assures that accidents involving an EV or hybrid would cause no more electrical hazard than a gasoline- or diesel-powered vehicle. Therefore, the Final Program EIR for the 2016 AQMP concluded that implementation of the 2016 AQMP would have a less than significant impact to hazards and hazardous materials from use of electric vehicles and batteries. Because impacts were concluded to be less than significant, mitigation measures were not required or adopted.

Hazards and Hazardous Materials Impacts from Use of Hydrogen²⁸

The physical hazards associated with bulk liquid transport and storage are similar to liquified natural gas (LNG), as they are both cryogenic liquids. The physical hazards associated with distributing hydrogen via pipeline and steam reformer hydrogen stations are similar to CNG as they are both compressed gases. In general, the fire hazards associated with hydrogen spills or leaks are higher than conventional fuels due to the wide flammability range and low ignition

²⁷ Department of Transportation, Pipeline and Hazardous Materials Safety Administration, 2014. 49 CFR Parts 171, 172, 173, et al., Hazardous Materials: Transportation of Lithium Batteries, Federal Register Volume 79, Issue 151 (79 FR pp. 46011-46032).

²⁸ See Section 4.4.3.2.2 Hydrogen of the Final Program EIR for the 2022 AQMP and Section 4.3.4.2.6 Hydrogen of the Final Program EIR for the 2016 AQMP

energy of hydrogen. However, hydrogen tanks are fabricated according to more rigorous standards than conventional fuel tanks, which helps reduce the likelihood of spills or leaks. The main additional hazard associated with the use of hydrogen versus conventional fuels is the difficulty in being able to recognize a hydrogen fire when it is happening. Hydrogen burns with a pale blue flame that is almost invisible during daylight hours making hydrogen fires are almost impossible to see with the naked eye. Hydrogen fires have low radiant heat, so it may be difficult to sense the presence of a flame until you are very close to it. Thus, the potential of a large fire stemming from a release of hydrogen in the case of an accident (e.g., a tanker truck accident) could pose challenges for fire-fighting personnel. Although hydrogen fires do not produce smoke themselves, burning of nearby combustible materials can result in smoke which help visual clues to a fire. Normally hydrogen fires are not extinguished until the supply of hydrogen has been shut off or exhausted since there is a danger of re-ignition and explosion. Firefighting personnel are trained in the characteristics of hydrogen fires and proper procedures for dealing with them. For the same fire hazard reasons, another potentially significant hazard is the release of hydrogen in an enclosed space (e.g., garage or vehicle maintenance facility).

Compared with diesel fuel and gasoline, the following can be stated about hydrogen:

- Diesel fuel and gasoline are toxic to the skin and lungs while hydrogen is non-toxic and non-reactive, so if released, it does not present a health hazard to humans.
- Diesel fuel and gasoline vapors are heavier than air (for specific gravity of air = 1, diesel fuel is >4.0, gasoline is 3.4) while hydrogen is 14 times lighter than air. If released, hydrogen will quickly rise dissipate into the atmosphere greatly reducing the risk of ignition at ground level.
- Hydrogen has an extremely low ignition energy requirement; about 20 microjoules can ignite hydrogen/air, which is about 10 times less than what is required to ignite a gasoline/air mixture. Gasoline can be explosive at oxygen concentrations between one and three percent while hydrogen can be explosive with oxygen concentrations between 18 and 59 percent. This means that gasoline has greater risk for explosion than hydrogen for any given environment with oxygen. (PNL, 2004.)
- Hydrogen has a lower radiant heat when compared to gasoline, meaning the air around the hydrogen flame is not as hot as around a gasoline flame. Therefore, the risk of hydrogen secondary fires is lower.
- Hydrogen is clear, odorless, and tasteless. It burns with an extremely hot, but nonluminous flame which is difficult to see during the day. The flame of burning hydrogen has few warning properties.
- Hydrogen has an unusually large flammability range and can form ignitable mixtures between four and 75 percent by volume in air. Given confinement and good mixing, hydrogen can be detonated over the range of 18 to 59 percent by volume in air.

Based upon the preceding information, hazards associated with hydrogen are approximately equivalent or less when compared to conventional fuels. In addition, fire hazards associated with hydrogen when compared to fires involving conventional fuels are equivalent but will require different firefighting protocols due to the nature of hydrogen. Therefore, both the Final Program

EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP concluded that no significant increase in hazards would be expected from using hydrogen in mobile sources when compared to conventional fuels. Because impacts were concluded to be less than significant, mitigation measures were not required or adopted.

Use of alternative fuels requires additional knowledge and training of owners/operators of fueling stations regarding maintaining and operating alternative fuel refueling stations and emergency responders. Further, as use of alternative fuels increases within the South Coast AQMD's jurisdiction, use of conventional fuels such as gasoline and diesel will decline. As a result, explosion and flammability hazards associated with conventional fuels will also decline. In addition, hazards and hazardous clean-up associated with accidental releases of conventional fuels, especially diesel, will be reduced as the use of alternative fuels increases. For the storage and dispensing of alternative fuels, compliance with existing regulations and recommended safety procedures will ensure that any potential hazards impacts associated with alternative clean-fuels are expected to be the same or less than those of conventional fuels. Accordingly, the Final Program EIRs for the 2022 AQMP and 2016 AQMP concluded that the hazards impacts from the increased use of alternative fuels would be similar to or less than hazards associated with conventional fuels, and that no significant increase in hazards would be expected from using alternative fuels in mobile sources when compared to conventional fuels. Because impacts were concluded to be less than significant, mitigation measures were not required or adopted.

Hazards and Hazardous Materials Impacts from Production of Hydrogen²⁹

The Final Program EIR for the 2022 AQMP analyzed risk associated with hydrogen production. More than 95 percent of U.S.-produced hydrogen is made in central plants via a steam methane reforming process using natural gas, refinery fuel gas, coal, and water electrolysis. In the early stages, expanded hydrogen production will likely rely on natural gas feedstock, as this approach offers a low-cost pathway to producing hydrogen. Over time, hydrogen fuel production could evolve from this natural gas dominance to a more diversified production mix, such as a lower-carbon production mix that includes natural gas reformation with carbon capture and storage, coal with carbon capture and storage (for hydrogen production outside of California), biofuels, waste resources, nuclear (for hydrogen production outside of California), and water electrolysis using renewable electric power. This shift is anticipated because it is expected that there will be a significant push to de-carbonize transportation fuels. Hydrogen may also be produced from renewable energy resources and waste streams using low-carbon-emitting processes (e.g., biomass gasification, water electrolysis using renewable electricity, and reformation of renewable natural gas)³⁰. (CEC, 2021.)

A recent hazard analysis was conducted for a proposed new hydrogen plant at a renewable fuels facility in Southern California. The results of the analysis indicated that the worst-case hazard zones associated with an upset of the hydrogen plant and related pipelines were related to a torch fire and would create hazards to surrounding areas within approximately 90 feet of the fire. The

²⁹ See Section 4.4.3.2.2 Hydrogen of the Final Program EIR for the 2022 AQMP and Section 4.3.4.2.6 Hydrogen of the Final Program EIR for the 2016 AQMP

³⁰ CEC, 2021. Final 2021 Integrated Energy Policy Report, Volume II, Ensuring Reliability in a Changing Climate. CEC-101-2021-001-V2 February, 2022. <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2021-integrated-energy-policy-report>

rupture of a related natural gas pipeline that would feed the hydrogen plant was also identified as a potential torch fire risk which could create hazards to surrounding areas within approximately 183 feet of a release. Since the construction of any new hydrogen plants would be expected to be constructed within existing industrial facilities that would likely have at least 90 feet to the closest off-site receptor, less than significant impacts would be expected relative to risk associated with hydrogen production. Existing natural gas pipelines provide service to most existing facilities, but the construction of new natural gas pipelines could be significant if located offsite of a facility where a new hydrogen production facility may be located, as the precise location of new natural gas pipelines cannot be forecasted. Natural gas pipelines are located throughout urban areas, including within residential areas and adjacent to sensitive receptors.

New natural gas pipelines are subject to a number of regulatory requirements, including the following:

- Hydrostatic testing to 125 percent of the operating pressure is required by the state Fire Marshal prior to operation of a pipeline. Additional periodic testing is required for pipelines, with the frequency of testing based on pipeline age, use of cathodic protection, and release history;
- New pipelines are required to accommodate instrumented internal inspection devices (commonly referred to as “smart pigs”). “Smart pigs” detect where corrosion or other damage has affected the wall thickness or shape. Additionally, to ensure the pipeline is operating properly and the total volume of material shipped is received, monitoring of operations during transfer of material is required and may include pressure indicators along the pipeline route, as well as flow meters at both the shipping and receiving ends of the pipeline;
- Cathodic protection is required for new pipelines. Cathodic protection is a technique used to control the corrosion of a metal surface by making it the cathode of an electrochemical cell. Avoiding corrosion protects the integrity of the pipeline and minimizes that potential for releases; therefore, installation of cathodic protection helps to prevent pipeline releases;
- Federal regulations require the installation and maintenance of line marker posts so that the pipeline is easily identifiable. In addition, annual inspections are required to look for corrosion and other issues;
- Pipelines are registered with the USA North 811 underground service alert system. Contractors contact this organization prior to beginning excavation activities. The organization notifies the owners of underground facilities in the area of the proposed construction activities. The owners and contractors can then discuss the proposed construction activities. Owners typically mark the exact location of the pipelines and communicate the locations to the contractors. Participation in the USA system minimizes the potential for damage and meets the requirements of the operator’s damage prevention program pursuant to 49 CFR Part 192 requirements;
- 49 CFR Part 192, Subpart N, requires minimum training requirements for operators of pipeline facilities. These requirements assure that individuals working on the pipeline would have appropriate training and experience;

- The operation of pipelines is required to have an Emergency Response Plan that identifies specific measures that would be implemented in the event of upset conditions. The Emergency Response Plan identifies responsible parties for the incident command and supporting agencies and organizations; and
- New natural gas pipeline may require the installation of safety blowdown equipment at one location along the designated route. The blowdown equipment will allow for the controlled release and dispersion of gas in the pipeline in the event of an upset condition. Blowdown equipment is part of the PHMSA requirements.

These extensive state and federal requirements on new (and existing) natural gas pipelines, are expected to be implemented and enforced. Implementation of these extensive requirements is expected to minimize the severity of potential hazard impacts of natural gas pipeline releases should they occur. As such, no mitigation measures were identified or adopted in the Final Program EIR for the 2022 AQMP that would be capable of reducing impacts beyond the existing state and federal requirements in place for this environmental topic area. The operational impacts associated with the new natural gas pipeline would remain significant as a release could potentially impact receptors, including residences, and would be a new or intensified hazard. Therefore, the Final Program EIR for the 2022 AQMP concluded that hazards associated with the potential increase in transmission of natural gas via pipeline to service hydrogen plants would be potentially significant.

At the time of writing the Final Program EIR for the 2016 AQMP, additional hydrogen production was not expected to be required to meet the projected hydrogen demand. Therefore, hazards and hazardous materials impacts from hydrogen production as a result of implementing control measures such as MOB-01 were not identified.

Regarding Mitigation Measures for Hazards and Hazardous Materials Impacts in the Final Program EIR for the 2022 AQMP³¹

The Final Program EIR for the 2022 AQMP concluded that production of hydrogen would result in potentially significant hazards and hazardous materials impacts. More specifically, based on the results of a recent hazards analysis, construction of new natural gas pipelines to service hydrogen production facilities may be a potential torch fire risk which could create hazards to surrounding areas within approximately 183 feet of a release. Because there are extensive state and federal requirements on new and existing natural gas pipelines, and implementation of these requirements are expected to minimize the severity of potential hazard impacts of natural gas pipeline releases should they occur, no mitigation measures were identified or adopted in the Final Program EIR for the 2022 AQMP that would be capable of reducing impacts beyond the existing state and federal requirements in place for this environmental topic area.

³¹ See Section 4.4.5 Cumulative Hazards and Hazardous Materials Impacts and Mitigation Measures of the Final Program EIR for the 2022 AQMP

Cumulative Impacts³²

The Final Program EIR for the 2022 AQMP concluded that implementation of Control Measure MOB-01 could result in significant adverse hazards and hazardous materials impacts from the construction of new natural gas pipelines to service hydrogen plants. No mitigation measures were identified for construction of a new natural gas pipeline. When combined with the Connect SoCal Plan, the SIP strategies, state policies, and other past, present, and reasonably foreseeable activities, the 2022 AQMP would result in significant hazards and hazardous materials impacts and would contribute to cumulatively considerable impacts. No additional mitigation measures to reduce the significant cumulative impacts to hazards and hazardous materials were identified. Therefore, the Final Program EIR concluded that cumulative impacts to hazards and hazardous materials for past, present, and reasonably foreseeable future projects would remain significant and unavoidable.

The Final Program EIR for 2016 AQMP concluded that implementation of Control Measure MOB-01 would not result in significant adverse hazards and hazardous materials impacts. Other 2016 AQMP control measures, however, would result in significant adverse hazards and hazardous materials impacts and, when combined with past, present, and reasonably foreseeable activities, and in particular with transportation projects projected in the 2016 RTP/SCS, would contribute to cumulatively considerable impacts to hazards and hazardous materials identified in the 2016 RTP/SCS, therefore resulting in a significant cumulative impact. No additional mitigation measures to reduce the significant cumulative impacts to hazards and hazardous materials were identified. Cumulative impacts to hazards and hazardous materials from implementation of the 2016 AQMP would remain significant and unavoidable.

Summary of Hazards and Hazardous Materials Analyses

As explained in the section titled “Summary of Environmental Impacts of Additional Measures”, the Regional Off-Port Truck Charging and Fueling Infrastructure Measure would result in the deployment of zero-emission infrastructure in a similar manner to what was originally contemplated for Control Measures MOB-01 and MOB-15 of the 2022 AQMP, and Control Measure MOB-01 of the 2016 AQMP. Specifically, the Enhanced Clean Ship Incentive Program, the Zero Emission Truck Utilization Incentive, and the Regional Off-Port Truck Charging and Fueling Infrastructure Measure could generate increased demand for electricity and alternative fuels to support zero-emission equipment and vehicle utilization in the South Coast Air Basin similar to what was anticipated to occur under Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. These three additional measures could accelerate the purchase of ZE-capable or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles similar to what was anticipated for Control Measure MOB-01 of the 2022 and 2016 AQMPs.

Table 12 presents a summary of the hazards and hazardous materials analyses conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. While the exact scope of the future actions that may occur under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain,

³² See Section 4.4.5.3 Summary of Cumulative Hazards and Hazardous Materials Impacts of the Final Program EIR for the 2022 AQMP and Section 5.9.1 Cumulative Impacts of the Final Program EIR for the 2016 AQMP

the nature of the physical changes that would occur are expected to be the same or similar compared to those anticipated for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. Further, the potentially significant hazards and hazardous materials impacts associated with hydrogen production identified for Control Measure MOB-01 of the 2022 AQMP will be the same or similar if the additional measures are implemented.

The Final Program EIR for the 2022 AQMP concluded that implementation of Control Measure MOB-01 could result in potentially significant hazards and hazardous materials impacts from the construction of new natural gas pipelines to service hydrogen plants, but no mitigation measures were identified or adopted because implementation of extensive state and federal requirements on new and existing natural gas pipelines is expected to minimize the severity of potential hazard impacts of natural gas pipeline releases should they occur. The Final Program EIR for the 2016 AQMP concluded that implementation of Control Measure MOB-01 would not result in significant adverse hazards and hazardous materials impacts. For these reasons, no hazards and hazardous materials mitigation measures were previously incorporated into the original Cooperative Agreement, and none are directly applicable for the additional measures in the proposed Addendum to the Cooperative Agreement.

The additional measures in the proposed Addendum to the Cooperative Agreement do not change the reasonably foreseeable activities resulting from implementing the 2022 AQMP, 2016 AQMP, and other projects considered in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP. Relative to cumulative effects, implementation of the additional measures, which are designed to implement Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, is expected to represent a subset of the overall significant hazards and hazardous materials impacts previously identified in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP. Therefore, the conclusion of significant and unavoidable cumulative hazards and hazardous materials impacts in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP will continue to apply to the additional measures and no new or additional cumulative impacts beyond those previously evaluated are expected.

Thus, the hazards and hazardous materials analyses conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP adequately describe the potential hazards and hazardous materials impacts which are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. The additional measures in the proposed Addendum to the Cooperative Agreement do not add new significant hazards and hazardous materials impacts or make the previously identified significant impacts worse. For these reasons, the additional measures in the proposed Addendum to the Cooperative Agreement do not require new mitigation measures.

**Table 12. Summary of Hazards and Hazardous Materials Analyses
in the Final Program EIRs for the 2022 AQMP and 2016 AQMP**

Significance Criteria	Potentially Significant Impacts	Mitigation Measures	Cumulative Impacts
Hazards and hazardous materials impacts are significant if any of the following conditions occur: • Non-compliance with any applicable design code or regulation. • Non-conformance to National Fire Protection Association standards. • Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment, or fire protection. • Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.	Implementation of Control Measure MOB-01 in the 2022 AQMP would cause potentially significant hazards and hazardous materials impacts from: • Increased production and use of alternative fuels (e.g., hydrogen). No potentially significant hazards and hazardous impacts were identified for Control Measure MOB-01 from the 2016 AQMP.	No hazards and hazardous materials mitigation measures were adopted for Control Measure MOB-01 in the Final Program EIR for the 2022 AQMP. No hazards and hazardous materials mitigation measures were adopted for Control Measures MOB-01 in the Final Program EIR for the 2016 AQMP.	Cumulative impacts to hazards and hazardous demand for past, present, and reasonably foreseeable future projects would remain significant and unavoidable for construction of new natural gas pipelines to service hydrogen plants.

Noise

Various types of construction activities will be necessary to implement most control measures including Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. The Final Program EIR for the 2022 AQMP evaluated the construction and installation of infrastructure to support the use of additional electricity and alternative fuels from Control Measure MOB-01. The Final Program EIR for the 2016 AQMP evaluated construction of infrastructure to provide support for new cleaner equipment or vehicles.

Significance Criteria

Noise impacts are significant if any of the following conditions occur:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

*Noise Impacts from Construction*³³

The Final Program EIR for the 2022 AQMP considered that implementation of Control Measure MOB-01 would require installing charging and alternative fueling infrastructure for the storage and dispensing of alternative fuels for use in on-road heavy-duty vehicles, off-road equipment, and locomotives operating ports; and deploying the cleanest locomotives, switchers, on-road heavy-duty trucks, cargo-handling equipment, transportation refrigeration units available (see Final Program EIR for the 2022 AQMP, Table 4.6-1). Control Measure MOB-01 could also require the installation roadway infrastructure within or adjacent to existing roadways, streets, freeways, and/or transportation corridors. For the purpose of evaluating potential noise impacts for this control measure, the analysis in the Final Program EIR for the 2022 AQMP assumed that no new rail or truck traffic routes would be constructed, but that some of the existing routes/corridors could be modified to include roadway infrastructure.

Similarly, the Final Program EIR for the 2016 AQMP considered potential noise impacts associated with Control Measure MOB-01 could include installation of roadway infrastructure (wayside power or other similar technologies), and installation of battery charging or fueling infrastructure. For purposes of evaluating potential noise impacts, it was assumed that no new industrial facilities or corridors would be constructed, but rather some of the existing facilities and corridors would be modified to include installation of new equipment and roadway infrastructure;

³³ See Section 4.6.3.1 Noise Associated with Construction Activities of the Final Program EIR for the 2022 AQMP and Section 4.5.4.1 Construction Activities of the Final Program EIR for the 2016 AQMP

and no new rail or truck traffic routes would be constructed, but rather some of these existing routes/corridors would be modified to include catenary overhead electrical lines or magnetic lines.

The existing rail and truck routes/corridors likely to be modified are located primarily in commercial and industrial zones within the Southern California area. Examples of these areas include, but are not limited to, industrial areas in and around container transfer facilities (rail and truck) near the Terminal Island Freeway.

The potential noise impact of construction activities would vary depending on the existing noise levels in the environment and the location of sensitive receptors (e.g., residences, hotels, hospitals, etc.) with respect to construction activities. Because no specific projects were proposed, the noise impacts were determined to be speculative. Potential modifications were assumed to occur at facilities typically located in appropriately zoned industrial or commercial areas, so construction noise impacts at stationary sources on sensitive receptors were concluded to be less than significant. The construction of roadway infrastructure would result in additional construction noise sources near transportation corridors, and it is not uncommon for residences and other sensitive receptors to be located within several hundred feet of the existing roadways, so noise levels associated with construction activities could increase three dBA or greater and generate potentially significant noise impacts, although temporary. Vibration from construction activities could exceed the 72 vibration decibels (VdB) threshold for structures and sensitive receptors within 200 feet of construction activities if certain types of construction equipment are used and so was considered potentially significant in both the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP. (See Table 13 which is Table 4.6-5 Representative Construction Equipment Vibration Impacts, from the Final Program EIR for the 2022 AQMP. Table 4.6-5 from the Final Program EIR for the 2022 AQMP presents updated vibration data for the same equipment compared to Table 4.5-4 from the Final Program EIR for the 2016 AQMP.)

Table 13. Representative Construction Equipment Vibration Impacts

Equipment	Peak Particle Velocity (PPV) at 25 ft (inches/sec)⁽¹⁾	Velocity Level (Lv) at 25 ft (VdB)⁽¹⁾	PPV at 200 ft (inches/sec)⁽²⁾	Lv at 200 ft (VdB)⁽³⁾
Impact Pile Driver (typical)	0.644	104	0.0285	77
Vibratory Roller	0.210	94	0.0093	67
Large Bulldozers	0.089	87	0.0039	60
Loaded Trucks	0.076	86	0.0034	59
Jackhammer	0.035	79	0.0015	52
Small Bulldozer	0.003	58	0.0001	31

(1) Source: FTA, 2018. Data reflects typical vibration levels

(2) Source: FTA, 2018. Eq. 7-2.

(3) Source: FTA, 2018. Eq. 7-3.

Because the noise impacts from implementing the 2022 AQMP were concluded to be significant for noise and vibration impacts during construction activities, feasible mitigation measures NS-1 to NS-14 for reducing impacts related to noise and vibration were adopted in the Final Program EIR for the 2022 AQMP (see pp 4.6-12 to 4.6-14 of the Final Program EIR for the 2022 AQMP). Even after mitigation measures NS-1 to NS-14 were applied, the Final Program EIR for the 2022

AQMP concluded that the overall noise and vibration impacts during construction activities would remain significant.

Similarly, because the noise impacts from implementing the 2016 AQMP were concluded to be significant for noise and vibration impacts during construction activities, feasible mitigation measures NS-1 to NS-17 for reducing impacts related to noise and vibration were adopted in the Final Program EIR for the 2016 AQMP (see pp. 4.5-11 to 4.5-12 of the Final Program EIR for the 2016 AQMP). Even after mitigation measures NS-1 to NS-17 were applied, the Final Program EIR for the 2016 AQMP concluded that the overall noise and vibration impacts during construction activities would remain significant.

Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Noise and Vibration Impacts During Construction³⁴

Mitigation measures NS-1 to NS-14 of the Final Program EIR for the 2022 AQMP and mitigation measures NS-1 to NS-17 of the Final Program EIR for the 2016 AQMP are presented side-by-side in Table 14. Because the analysis conducted in the Final Program EIR for the 2022 AQMP reflects the most recent best practices, owners and operators of equipment required to mitigate noise and vibration impacts from construction are recommended to utilize the mitigation measures of the Final Program EIR for the 2022 AQMP in the event of a conflict between mitigation measures that would apply in a given situation.

³⁴ See Section 4.6.3.1 Noise Associated with Construction Activities of the Final Program EIR for the 2022 AQMP and Section 4.5.5 Mitigation Measures of the Final Program EIR for the 2016 AQMP

Table 14. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Noise

2022 AQMP	2016 AQMP
NS-1 Install temporary noise barriers to protect sensitive receptors from excessive noise levels during construction. NS-2 Schedule construction activities consistent within the allowable hours pursuant to the applicable general plan noise element or noise ordinance. For construction activities located near sensitive receptors, ensure noise-generating construction activities (including truck deliveries, pile driving, and blasting) are limited to the least noise-sensitive times of day (e.g., weekdays during the daytime hours). Where construction activities are authorized to occur outside of the limits established by the noise element of the general plan or noise ordinance, notify affected sensitive receptors and all parties who will experience noise levels in excess of the allowable limits for the specified land use, of the anticipated level of exceedance and duration of exceedance; and provide a list of protective measures that can be undertaken by the individual, including temporary relocation or use of hearing protective devices. NS-3 Prohibit idling of construction equipment for extended periods of time in the vicinity of sensitive receptors. NS-4 Post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted construction days and hours, complaint procedures, and who to notify in the event of a problem.	NS-1 Install temporary noise barriers during construction. NS-2 Use noise barriers to protect sensitive receptors from excessive noise levels during construction. NS-3 Schedule construction activities consistent with the allowable hours pursuant to applicable general plan noise element or noise ordinance. Ensure noise-generating construction activities (including truck deliveries, pile driving, and blasting) are limited to the least noise-sensitive times of day (e.g., weekdays during the daytime hours) for projects near sensitive receptors. Where construction activities are authorized outside the limits established by the noise element of the general plan or noise ordinance, notify affected sensitive noise receptors and all parties who will experience noise levels in excess of the allowable limits for the specified land use, of the level of exceedance and duration of exceedance; and provide a list of protective measures that can be undertaken by the individual, including temporary relocation or use of hearing protective devices. NS-4 Limit speed and/or hours of operation of rail and transit systems during the selected periods of time to reduce duration and frequency of conflict with adopted limits on noise levels. NS-5 Post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted construction days and hours, complaint procedures, and who to notify in the event of a problem.

**Table 14. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP
for Noise (continued)**

2022 AQMP	2016 AQMP
NS-5 Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance. NS-6 Hold a preconstruction meeting with job inspectors and the general contractor/onsite project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed. NS-7 Designate an on-site construction complaint and enforcement manager for the project. NS-8 Ensure that construction equipment is properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded.	NS-6 Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance. NS-7 Hold a preconstruction meeting with the job inspectors and the general contractor/onsite project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed. NS-8 Designate an on-site construction complaint and enforcement manager for the project. NS-9 Ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded.

**Table 14. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP
for Noise (continued)**

2022 AQMP	2016 AQMP
NS-9 Use hydraulically or electrically powered tools (e.g., jack hammers, pavement breakers, and rock drills) for project construction to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust should be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves should be used, if such jackets are commercially available, and this could achieve a further reduction of 5 dBA. Quieter procedures should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures. NS-10 Locate fixed/stationary equipment (such as generators, compressors, rock crushers, and cement mixers) as far as possible from noise-sensitive receptors. NS-11 Consider using flashing lights instead of audible back-up alarms on mobile equipment. NS-12 For construction activities that require pile driving or other techniques that result in excessive noise or vibration, such as blasting, develop site-specific noise/vibration attenuation measures under the supervision of a qualified acoustical consultant.	NS-10 Ensure that impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction are hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust can and should be used. External jackets on the tools themselves can and should be used, if such jackets are commercially available and this could achieve a reduction of 5 dBA. Quieter procedures can and should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures. NS-11 Ensure that construction equipment is not idling for an extended time in the vicinity of noise-sensitive receptors. NS-12 Locate fixed/stationary equipment (such as generators, compressors, rock crushers, and cement mixers) as far as possible from noise-sensitive receptors. NS-13 Consider using flashing lights instead of audible back-up alarms on mobile equipment. NS-14 For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the potential vibration impacts to the structural integrity of the adjacent buildings within 50 feet of pile driving locations.

Table 14. Mitigation Measures Adopted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Noise (concluded)

2022 AQMP	2016 AQMP
NS-13 For construction activities at locations that require pile driving due to geological conditions, utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain. NS-14 Monitor the effectiveness of noise reduction measures by taking noise measurements and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise element of the general plan or noise ordinance.	NS-15 For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the threshold levels of vibration and cracking that could damage adjacent historic or other structure, and design means and construction methods to not exceed the thresholds. NS-16 For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain. NS-17 For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as the use of more than one pile driver to shorten the total pile driving duration.

Cumulative Impacts³⁵

Both the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP concluded that implementation of their respective AQMP control measures could result in significant adverse noise and vibration impacts during construction because vibration from construction activities could exceed the 72 vibration decibels (VdB) threshold for structures and sensitive receptors within 200 feet of construction activities if certain types of construction equipment were used.

When combined with the Connect SoCal Plan, the SIP strategies, state policies, and other past, present, and reasonably foreseeable activities, the 2022 AQMP would result in a significant increase to noise, and vibration impacts during construction and would contribute to cumulatively considerable impacts. No additional mitigation measures to reduce the significant cumulative impacts to noise and vibration during construction have been identified. Cumulative impacts to noise and vibration during construction for past, present, and reasonably foreseeable future projects would remain significant and unavoidable for noise and vibration.

The 2016 AQMP control measures would result in significant adverse noise and vibration impacts during construction and, when combined with past, present, and reasonably foreseeable activities, and in particular with transportation projects projected in the 2016 RTP/SCS, would contribute to cumulatively considerable impacts to noise impacts identified in the 2016 RTP/SCS, therefore resulting in a significant cumulative impact. No additional mitigation measures to reduce the significant cumulative impacts to noise were identified. Cumulative impacts to noise and vibration from implementation of the 2016 AQMP would remain significant and unavoidable.

Summary of Noise Analyses

As explained in the section titled “Summary of Environmental Impacts of Additional Measures”, the Regional Off-Port Truck Charging and Fueling Infrastructure Measure would result in the deployment of zero-emission infrastructure in a similar manner to what was originally contemplated for Control Measures MOB-01 and MOB-15 of the 2022 AQMP, and Control Measure MOB-01 of the 2016 AQMP. Specifically, the Enhanced Clean Ship Incentive Program, the Zero Emission Truck Utilization Incentive, and the Regional Off-Port Truck Charging and Fueling Infrastructure Measure could generate increased demand for electricity and alternative fuels to support zero-emission equipment and vehicle utilization in the South Coast Air Basin similar to what was anticipated to occur under Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. These three additional measures could accelerate the purchase of ZE-capable or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles similar to what was anticipated for Control Measure MOB-01 of the 2022 and 2016 AQMPs.

Table 15 presents a summary of the noise analyses conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. While the exact scope of the future actions that may occur under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain, the nature of the physical

³⁵ See Section 4.6.5 Cumulative Noise Impacts and Mitigation Measures of the Final Program EIR for the 2022 AQMP and Section 5.13.1 Cumulative Impacts of the Final Program EIR for the 2016 AQMP

changes that would occur are expected to be the same or similar compared to those anticipated for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. Further, the potentially significant noise impacts identified for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP will be the same or similar if the additional measures are implemented.

In addition, the noise mitigation measures from Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, which were adopted to reduce the noise impacts associated with the installation of charging and fueling infrastructure for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, were previously incorporated into the original Cooperative Agreement and are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. Further, these noise mitigation measures have been incorporated into the proposed Addendum to the Cooperative Agreement and will remain in effect.

The additional measures in the proposed Addendum to the Cooperative Agreement do not change the reasonably foreseeable activities resulting from implementing the 2022 AQMP, 2016 AQMP, and other projects considered in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP. Relative to cumulative effects, implementation of the additional measures, which are designed to implement Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, is expected to represent a subset of the overall significant noise impacts previously identified in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP. Therefore, the conclusion of significant and unavoidable cumulative noise impacts in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP will continue to apply to the additional measures and no new or additional cumulative impacts beyond those previously evaluated are expected.

Thus, the noise analyses conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP adequately describe the potential noise impacts and associated mitigation measures and the associated mitigation measures which are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. The additional measures in the proposed Addendum to the Cooperative Agreement do not add new significant noise impacts or make the previously identified significant impacts worse. For these reasons, the additional measures in the proposed Addendum to the Cooperative Agreement do not require new or modified mitigation measures. The previously adopted mitigation measures have been incorporated into the proposed Addendum to the Cooperative Agreement and will remain in effect.

Table 15. Summary of Noise Analyses in the Final Program EIRs for the 2022 AQMP and 2016 AQMP

Significance Criteria	Potentially Significant Impacts	Mitigation Measures	Cumulative Impacts
Noise impacts are significant if any of the following conditions occur: • Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers. • The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.	Implementation of Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP would cause potentially significant noise impacts from: • Construction of roadway infrastructure	• NS-1 to NS-14 of the Final Program EIR for the 2022 AQMP; and • NS-1 to NS-17 of the Final Program EIR for the 2016 AQMP	Cumulative impacts to noise and vibration impacts for past, present, and reasonably foreseeable future projects would remain significant and unavoidable during construction activities.

Solid and Hazardous Waste

The Final Program EIR for the 2022 AQMP identified and analyzed potential adverse solid and hazardous waste impacts associated with disposal of spent diesel particulate filters. Both the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP identified construction activities for infrastructure development, and replacement and early retirement of vehicles and equipment to be potential adverse solid and hazardous waste impacts associated with implementation of the additional measures in the proposed Addendum to Cooperative Agreement.

Significance Criteria

Solid and hazardous waste impacts are significant if the generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Table 16 summarizes the landfill capacity in South Coast AQMD jurisdiction and is Table 3.7-2 Number of Class III Landfills Located within the South Coast AQMD's Jurisdiction and Related Landfill Capacity, from the Final Program EIR for the 2022 AQMP.

Table 16. Number of Class III Landfills Located within the South Coast AQMD's Jurisdiction and Related Landfill Capacity

County	Number of Landfills	Permitted Capacity (tons per day)
Los Angeles	10	38,249
Orange	3	23,500
Riverside ⁽¹⁾	6	22,314
San Bernardino ⁽¹⁾	9	16,269
Total	28	100,332

Source: CalRecycle Solid Waste Information System *SWIS) Search. Available at:

<https://www2.calrecycle.ca.gov/SolidWaste/>

(1) Data presented is for the entire county and not limited to the portion of the county within the South Coast AQMD jurisdiction.

Solid and Hazardous Waste Impacts from Disposal of Spent Diesel Particulate Filters³⁶

Implementation of Control Measure MOB-01 could result in the use of diesel particulate filters (DPFs) to reduce diesel particulate matter, a toxic, from on-road heavy-duty vehicles, off-road construction equipment, and low-emitting engines on cargo handling equipment and locomotives. A DPF is an exhaust aftertreatment device that traps diesel particulate matter as ash which is a by-product of combustion engines that use diesel fuel. In order to reduce emissions from diesel engines, a DPF captures and stores exhaust soot, which must be periodically burned off to regenerate the filter media. The lifespan of a DPF varies based on the application and type of engine but can last from five to ten years or 10,000 or more hours of operation. During the

³⁶ See Section 4.7.3.2.2 Diesel Particulate Filters of the Final Program EIR for the 2022 AQMP and Section 4.6.4.2.2 Particulate Traps, Filters, and Precipitators of the Final Program EIR for the 2016 AQMP

regenerative process, no solid waste is generated. However, during the periodic cleaning of the DPF, the process involves manually removing the filter element from the housing and placing it in a cleaning station designed for this purpose. The ash is collected in the cleaning station and sent for disposal as solid waste. DPF ash is not specifically listed in the Federal Code of Regulations as a hazardous material, but there may be metallic oxides in the ash which are hazardous to the environment and public health. Waste generators that operate DPF cleaning stations can either dispose of the DPF ash as hazardous waste or can have the waste tested using the Toxicity Characteristic Leaching Procedure (TCLP) which is a process that replicates the leaching process that would naturally occur when waste is buried in a municipal landfill. If the leachate contains any of the regulated contaminants at concentrations that are equal to or greater than the regulatory levels, then the DPF ash is considered hazardous waste.

Diesel repair shops currently operate cleaning stations so any additional soot and ash removed from additional DPFs deployed as a result of implementing the control measures will be collected and disposed of in accordance with existing practices and applicable regulations for hazardous waste disposal. At the end of its useful life, a DPF has monetary value and is typically sent for recycling to recover the catalyst, and the metal housing is sent to a scrap metal recycler, so solid waste is not expected from the disposal of DPFs. While the quantity of equipment that would utilize DPFs as result of implementing the control measures is unknown, the quantity of collected particulate matter typically recovered from one DPF during its cleaning is expected to be small such that the amount of additional DPF ash that would need to be disposed of in either local landfills or hazardous waste landfills, depending on the chemical characteristics of the DPF ash, would also be relatively small. Nonetheless, an increase in the use of DPFs may result in an incremental increase in solid waste requiring disposal in landfills over what would be produced if the 2022 AQMP were not adopted.

If based on the outcome of the TCLP process that the DPF ash collected during the filter cleaning process is not hazardous, then it could be disposed of as solid waste at a number of landfills located within South Coast AQMD's jurisdiction. The current permitted capacity of the landfills in Los Angeles, Orange, Riverside, and San Bernardino counties is about 100,332 tons per day (see Table A-16) and has sufficient capacity to handle the small increase in soot and ash collected during the DPF cleaning process. There are no hazardous waste landfills within the South Coast AQMD's jurisdiction. If the DPF ash is determined to be hazardous, the waste can be transported to permitted facilities located within and outside of California. There are two hazardous waste landfills in California: Clean Harbors landfill located in Buttonwillow and CWMI Kettleman Hills landfill in Kings County. The permitted capacity of Clean Harbors is in excess of 13 million cubic yards of waste material and the permitted capacity of CWMI Kettleman Hills is over 33 million cubic yards. Therefore, these two hazardous materials landfills would have sufficient capacity to handle the small amounts of waste that could be generated by ash collected from DPFs employed on equipment as part of implementing the control measures. Therefore, the Final Program EIR for the 2022 AQMP concluded that use of DPFs would generate less than significant levels of solid and hazardous waste in the form DPF ash which would need to be disposed of in either a municipal or hazardous waste landfill.

Solid and Hazardous Waste Impacts from Construction for Infrastructure Development³⁷

Control Measure MOB-01 was expected to involve construction associated with the electrification of existing sources and the replacement of existing equipment. This construction could generate solid waste due to demolition and site preparation, grading, and excavating. Specifically, demolition activities could generate demolition waste while site preparation, grading, and excavating could uncover contaminated soils since the facilities affected by the control measure are located in existing industrial or commercial areas. Excavated soil, if found to be contaminated, would need to be characterized, treated, and disposed of offsite in accordance with applicable regulations. Where appropriate, the soil can be recycled for reuse if it is considered or classified as non-hazardous waste, or it can be disposed of at a landfill that accepts non-hazardous waste. Otherwise, the material will need to be disposed of at a hazardous waste facility.

Due to the uncertainty of the future capacity of the landfills within South Coast AQMD's jurisdiction and the broad scope of equipment that could undergo modifications or replacement, the Final Program EIR for the 2022 AQMP concluded the solid and hazardous waste impacts from construction to be potentially significant and mitigation measures were required. Since the project-specific mitigation for solid and hazardous waste impacts are the same for waste generated during construction and operation, the mitigation measures follow the discussion of operational impacts. Similarly, implementation of 2016 AQMP control measures such as MOB-01 would result in construction which would generate waste attributable to the removal of soil, construction debris from demolition, etc., and some of this waste could be characterized as hazardous waste. The Final Program EIR for the 2016 AQMP determined that it would be speculative to estimate the amount of construction waste that would be generated if the 2016 AQMP was implemented, since the extent and timing of individual projects was not known. Therefore, the solid and hazardous waste impacts from construction were concluded to be significant.

Solid and Hazardous Waste Impacts from Replacement and Early Retirement of Vehicles and Equipment³⁸

Implementation of Control Measure MOB-01 that encourages the early retirement of older vehicles and other mobile sources, and the replacement with newer equipment or newer vehicles (including electric or alternative fuel vehicles) could result in an increase in waste generated from spent batteries and non-salvageable material. AQMP mobile source pollution control measures would incentivize penetration of fuel cell and electric vehicles into the market. The potential quantities of retired vehicles are summarized by category in Tables 17 and 18 which compile information from Table 4.7-2 Potential Vehicle Retirements by Mobile Source Sector, from the Final Program EIR for the 2022 AQMP, and Table 4.6-2 Control Measures and Potential Vehicle Retirement Quantities, from the Final Program EIR for the 2016 AQMP, respectively.

³⁷ See Section 4.7.3.1 Solid and Hazardous Waste Associated with Construction Activities of the Final Program EIR for the 2022 AQMP and Section 4.6.4.4 Construction Waste of the Final Program EIR for the 2016 AQMP

³⁸ See Section 4.7.3.1.2 Solid Waste Impacts During Construction Due to Early Retirement of Equipment of the Final Program EIR for the 2022 AQMP and Section 4.6.4.3 Retirement of Equipment of the Final Program EIR for the 2016 AQMP

Table 17. Potential Vehicle Retirements by Mobile Source Sector

Mobile Source Sector	Number of Potential Vehicle Retirements
Heavy-Duty Vehicles	8,214
Off-Road Construction	1,021
Other Off-Road and CHE	428
TRU	224
Locomotives	125
Total:	10,012

Source: 2022 AQMP Table 4-23. Based on active projects with emission reductions in 2037 using the maximum project life allowed per 2017 Carl Moyer Guidelines.

Table 18. Control Measures and Potential Vehicle Retirement Quantities

CONTROL MEASURE NO.	CONTROL MEASURE DESCRIPTION	ESTIMATED NUMBER OF VEHICLES	
		2023	2031
MOB-01, MOB-02, MOB-03, MOB-04, OFFS-01, OFFS-04, OFFS-06	Accelerate the Penetration of Zero Emission TRUs, Forklifts, and Ground Support Equipment	50,000	100,00

The most common battery currently used in gasoline- and diesel-powered vehicles is the lead-acid battery found in conventional automobiles and trucks. These batteries are disposed of through the established lead recycling industry. However, zero emission vehicles operate with battery types that are different than the lead-acid battery; the most common type of battery used in electric vehicles is comprised of lithium-ion technology (Li-ion). The increased operation of electric vehicles associated with the implementation of the AQMP mobile source measures may actually result in a reduction of the amount of solid and hazardous waste generated in the South Coast AQMD's jurisdiction, as Li-ion batteries have a much longer life span than conventional lead-acid batteries. The recycling of batteries is also required under law. Further, some manufacturers pay for used electric vehicle batteries. The value, size, and length of life of Li-ion batteries are such that recycling is expected to be more predominant than with lead acid batteries. Therefore, the use of electric vehicles is not expected to result in an increase in the illegal or improper disposal of electric batteries. Further, batteries associated with electric cars are required to be diverted from landfills. Therefore, no significant increase in the disposal of solid or hazardous waste is expected due to increased use of electric vehicles.

The primary solid waste impact from retiring more vehicles as part of implementing the control measure is the accelerated replacement and disposal of equipment and parts earlier than the end of their useful life. It is important to note that control measures do not mandate that older vehicle, engines, or other equipment be scrapped. The control measures allow for a number of different

control methods to achieve the desired emission reductions, and the most cost-effective methods would be expected to be implemented. Control measures such as MOB-01 that would foster a transition to putting new equipment into service will also generally result in the concurrent retirement of the older equipment. Alternatively, some measures may encourage the advanced deployment of cleaner technologies without waiting for an equipment's end of useful life which will result in an air quality benefit. Scrap metal from vehicle replacements is expected to be recycled; however, some amount of waste-scraped vehicles and parts may be sent to landfills for disposal. Although recycling and diversion activities will reduce the amount of waste entering landfills, it is difficult to quantify the waste that will be generated from the early retirement of equipment or the salvageable amount that would be recycled.

The Final Program EIR for the 2022 AQMP concluded early retirement of equipment to have significant solid and hazardous waste impacts since available landfill space is limited to approximately 100,000 tons per day and only four of the solid waste landfills within the South Coast AQMD's jurisdiction have capacity past 2039.

The Final Program EIR for the 2016 AQMP similarly concluded early retirement of equipment to have significant solid and hazardous waste impacts because, although equipment that may be retired before the end of its useful life may be reused in areas outside the Basin and equipment with no remaining useful life is expected to be recycled for metal content, there would be a high volume of vehicle and equipment to retire in a short timeframe and uncertainty of their outcome.

Construction waste from infrastructure development and operational waste from the early retirement of equipment were identified as generating potentially significant solid and hazardous waste impacts. Feasible mitigation measures SHW-1 to SHW-3 for reducing impacts related to solid and hazardous waste were adopted in the Final Program EIR for the 2022 AQMP. Even after mitigation measures SHW-1 to SHW-3 were applied, the Final Program EIR for the 2022 AQMP concluded that the solid and hazardous waste impacts would remain significant (see pp. 4.7-24 to 4.7-25 of the Final Program EIR for the 2022 AQMP). The Final Program EIR for the 2016 AQMP, however, did not identify mitigation measures feasible for reducing solid and hazardous waste impacts.

Mitigation Measures Adopted in the Final Program EIR for the 2022 AQMP for Solid and Hazardous Waste³⁹

- SHW-1 During the planning, design, and project-level CEQA review process for individual development projects, lead agencies shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures and to encourage diversion of solid waste such as recycling and composting programs, as needed. This includes discouraging siting of new landfills unless all other waste reduction and prevention actions have been fully explored to minimize impacts to neighborhoods.

³⁹ See Section 4.7.3.2.5 Wood and Greenwaste of the Final Program EIR for the 2022 AQMP

SHW-2 The lead agency should coordinate with waste management agencies, and the appropriate local and regional jurisdictions, to develop measures to facilitate and encourage diversion of solid waste such as recycling and composting programs.

SHW-3 In accordance with CEQA Guidelines Sections 15091(a)(2) and 15126.4(a)(1)(B), a Lead Agency for a project should consider mitigation measures to reduce the generation of solid waste, as applicable and feasible. These may include the integration of green building measures consistent with CALGreen (California Building Code Title 24) into project design including, but not limited to the following:

- 1) Reuse and minimization of construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities.
- 2) Include a waste management plan that promotes maximum C&D diversion.
- 3) Pursue source reduction through: a) the use of materials that are more durable and easier to repair and maintain; b) design to generate less scrap material through dimensional planning; c) increased recycled content; d) the use of reclaimed materials; and e) the use of structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.).
- 4) Reuse existing structure and shell in renovation projects.
- 5) Develop indoor recycling program and space.
- 6) Discourage the siting of new landfills unless all other waste reduction and prevention actions have been fully explored. If landfill siting or expansion is necessary, site landfills with an adequate landfill-owned, undeveloped land buffer to minimize the potential adverse impacts of the landfill in neighboring communities.
- 7) Discourage exporting locally generated waste outside of the southern California region during the construction and implementation of a project. Encourage disposal within the county where the waste originates as much as possible. Promote green technologies for long-distance transport of waste (e.g., clean engines and clean locomotives or electric rail for waste-by-rail disposal systems) and consistency with South Coast AQMD and Connect SoCal policies can and should be required.
- 8) Encourage waste reduction goals and practices and look for opportunities for voluntary actions to exceed the 80 percent waste diversion target.
- 9) Encourage the development of local markets for waste prevention, reduction, and recycling practices by supporting recycled content and green procurement policies, as well as other waste prevention, reduction and recycling practices.
- 10) Develop ordinances that promote waste prevention and recycling activities such as requiring waste prevention and recycling efforts at all large events and venues, implementing recycled content procurement programs, and developing opportunities to divert food waste away from landfills and toward food banks and composting facilities.
- 11) Develop and site composting, recycling, and conversion technology facilities that have minimum environmental and health impacts.

- 12) Integrate reuse and recycling into residential industrial, institutional and commercial projects.
- 13) Provide education and publicity about reducing waste and available recycling services.
- 14) Implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services.

Cumulative Impacts⁴⁰

The Final Program EIR for the 2022 AQMP concluded that implementation of the 2022 AQMP could result in significant adverse solid and hazardous waste impacts due to the uncertainty of the future capacity of the landfills within South Coast AQMD's jurisdiction to address waste from construction of infrastructure and early retirement of vehicles and equipment. When combined with the Connect SoCal Plan, the SIP strategies, state policies, and other past, present, and reasonably foreseeable activities, the 2022 AQMP would result in a significant increase in solid and hazardous waste and would contribute to cumulatively considerable impacts. No additional mitigation measures to reduce the significant cumulative impacts to solid and hazardous waste have been identified. Cumulative impacts to solid and hazardous waste for past, present, and reasonably foreseeable future projects would remain significant and unavoidable for solid and hazardous waste.

The Final Program EIR for 2016 AQMP concluded that implementation of Control Measure MOB-01 would result in significant adverse solid and hazardous waste impacts due to a high volume of vehicle and equipment being retired in a short timeframe and uncertainty of their outcome. Other 2016 AQMP control measures would also result in significant adverse solid and hazardous waste impacts due to construction. The 2016 AQMP control measures would result in significant adverse solid and hazardous waste impacts and, when combined with past, present, and reasonably foreseeable activities, and in particular with transportation projects projected in the 2016 RTP/SCS, would contribute to cumulatively considerable impacts to solid and hazardous waste identified in the 2016 RTP/SCS, therefore resulting in a significant cumulative impact. No additional mitigation measures to reduce the significant cumulative impacts to solid and hazardous waste were identified. Cumulative impacts to solid and hazardous waste from implementation of the 2016 AQMP would remain significant and unavoidable.

Summary of Solid and Hazardous Waste Analyses

As explained in the section titled "Summary of Environmental Impacts of Additional Measures", the Regional Off-Port Truck Charging and Fueling Infrastructure Measure would result in the deployment of zero-emission infrastructure in a similar manner to what was originally contemplated for Control Measures MOB-01 and MOB-15 of the 2022 AQMP, and Control Measure MOB-01 of the 2016 AQMP. Specifically, the Enhanced Clean Ship Incentive Program,

⁴⁰ See Section 4.7.5 Cumulative Solid and Hazardous Waste Impacts and Mitigation Measures of the Final Program EIR for the 2022 AQMP and Section 5.17.1 Cumulative Impacts of the Final Program EIR for the 2016 AQMP

the Zero Emission Truck Utilization Incentive, and the Regional Off-Port Truck Charging and Fueling Infrastructure Measure could generate increased demand for electricity and alternative fuels to support zero-emission equipment and vehicle utilization in the South Coast Air Basin similar to what was anticipated to occur under Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. These three additional measures could accelerate the purchase of ZE-capable or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles similar to what was anticipated for Control Measure MOB-01 of the 2022 and 2016 AQMPs.

Table 19 presents a summary of the solid and hazardous waste analyses conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. While the exact scope of the future actions that may occur under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain, the nature of the physical changes that would occur are expected to be the same or similar compared to those anticipated for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. Further, the potentially significant solid and hazardous waste impacts, associated with construction waste from infrastructure development and operational waste from the early retirement of equipment, identified for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP will be the same or similar if the additional measures are implemented.

In addition, the solid and hazardous waste mitigation measures from Control Measure MOB-01 of the 2022 AQMP, which were adopted to reduce the solid and hazardous waste impacts from construction and operational activities associated with the installation of charging and fueling infrastructure for Control Measure MOB-01 of the 2022 AQMP, were previously incorporated into the original Cooperative Agreement and are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. As such, these solid and hazardous waste mitigation measures have been incorporated into the proposed Addendum to the Cooperative Agreement and will remain in effect.

The additional measures in the proposed Addendum to the Cooperative Agreement do not change the reasonably foreseeable activities resulting from implementing the 2022 AQMP, 2016 AQMP, and other projects considered in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP, such as the SCAG Connect SoCal Plan and the CARB 2022 State SIP Strategy. Relative to cumulative effects, implementation of the additional measures, which are designed to implement Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, are expected to represent a subset of the overall significant construction and operational solid and hazardous waste impacts previously identified in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP. Therefore, the conclusion of significant and unavoidable cumulative construction and operational solid and hazardous waste impacts in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP will continue to apply to the additional measures and no new or additional cumulative impacts beyond those previously evaluated are expected.

Thus, the solid and hazardous waste analyses conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP adequately describe the potential solid and hazardous waste impacts and associated mitigation measures which are directly applicable to the additional measures in the proposed Addendum to

the Cooperative Agreement. The additional measures in the proposed Addendum to the Cooperative Agreement do not add new significant solid and hazardous waste impacts or make the previously identified significant impacts worse. For these reasons, the additional measures in the proposed Addendum to the Cooperative Agreement do not require new or modified mitigation measures. The previously adopted mitigation measures have been incorporated into the proposed Addendum to the Cooperative Agreement and will remain in effect.

Table 19. Summary of Solid and Hazardous Waste Analysis in the Final Program EIRs for the 2022 AQMP and 2016 AQMP

Significance Criteria	Potentially Significant Impacts	Mitigation Measures	Cumulative Impacts
Solid and hazardous waste impacts are significant if any of the following conditions occur: • If the generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.	Implementation of Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP would cause potentially significant solid and hazardous waste impacts from: • Construction waste for infrastructure development, and • Operational waste from the early retirement of equipment	• SHW-1 to SHW-3 of the Final Program EIR for the 2022 AQMP No mitigation measures related to solid and hazardous waste impacts were identified and adopted in the Final Program EIR for the 2016 AQMP.	Cumulative impacts to solid and hazardous waste impacts for past, present, and reasonably foreseeable future projects would remain significant and unavoidable because of potential increases in waste produced during construction and operation activities.

Transportation and Traffic

The 2022 AQMP aimed to accelerate the transition to low-NO_x and zero-emission mobile sources, strengthen controls on industrial stationary and indirect emission sources, and promote incentive-based programs to replace high-emitting equipment, alongside educational and outreach initiatives. The plan builds on SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2022 AQMP control measures would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. It also updates motor vehicle emission budgets using the latest data to ensure compliance with U.S. EPA's Transportation Conformity Rule, thereby maintaining eligibility for federal transportation funding and supporting improvements in traffic flow. The Final Program EIR for 2022 AQMP concluded that, while implementation of control measures may temporarily increase construction-related traffic from installing air pollution control systems and infrastructure, such impacts would be short-term and localized. The control measures do not require construction of new roadways or introduction of incompatible uses, although some control measures could involve adding overhead electrical or magnetic systems for low-emission transport technologies along existing routes. Overall, the 2022 AQMP would enhance air quality goals without creating new traffic hazards or permanent transportation disruptions.

The Final Program EIR for the 2016 AQMP identified the temporary changes in traffic pattern/volume due to construction activities, and operational impacts due to deliveries of alternative fuels/additives and increased waste disposal, to be potential adverse transportation and traffic impacts associated with implementation of Control Measure MOB-01 from the 2016 AQMP, upon which the additional measures in the proposed Addendum to Cooperative Agreement relies.

Significance Criteria

Transportation and traffic impacts are significant if any of the following conditions occur:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E, or F for more than one month.
- An intersection's volume to capacity ratio increases by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car, or air traffic is substantially altered.
- The need for more than 350 employees
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day
- Increase customer traffic by more than 700 visits per day.

Transportation and Traffic Impacts from Construction Activities⁴¹

The existing rail and truck routes/corridors that could be modified to construct electric and/or magnetic power infrastructure are located primarily in commercial and industrial zones within the southern California area. Examples of these areas include, but are not limited to, the Port of Los Angeles, Port of Long Beach, and industrial areas in and around container transfer facilities (rail and truck) near the Terminal Island Freeway, along the Alameda Corridor, as well as inland facilities. Since only existing transportation routes will be modified and no new transportation routes are anticipated as part of implementing Control Measure MOB-01, project impacts will be temporary in nature and limited to construction activities.

Construction activities would generate traffic associated with construction worker vehicles and trucks delivering equipment, and materials and supplies to the project site during the duration of the construction activities. Additional traffic will be generated by the 2016 AQMP due to the need to transport increased waste for disposal (e.g., construction debris). Heavy construction equipment such as backhoes, cranes, cherry pickers, front end loaders, and other types of equipment would be used to carry out the aforementioned construction activities. Construction activities would be expected to occur within or adjacent to existing roadways which could require lane closures to protect construction workers and avoid traffic conflicts. These construction activities are expected to occur along heavily travelled roadways (e.g., roads near the ports, such as Sepulveda Boulevard, Terminal Island Freeway, on Navy Way at the Port of Los Angeles, and Alameda Street). Construction traffic could potentially result in increased traffic volumes on heavily traveled streets and require temporary lane closures. Construction activities may result in the following impacts:

- Temporary reduction in the level of service on major arterials;
- Temporary closure of a roadway or major arterial;
- Temporary closure of a railroad line;
- Temporary impact on businesses or residents within the construction area;
- Removal of on-street parking; and
- Conflict with public transportation system (e.g., temporary removal of bus stops)

Construction activities necessary to modify existing rail and truck routes/corridors would vary depending on the location and the specific traffic impacts are unknown. However, the above listed traffic impacts, although temporary in nature, could be significant and result in a reduction of LOS at local intersections, result in partial or temporary road or lane closures, result in additional traffic congestion, and potentially impact roadways within the County's congestion management plan.

Because the transportation and traffic impacts from implementing the 2016 AQMP were concluded to be significant during construction activities, feasible mitigation measure TR-1 was adopted in the Final Program EIR for the 2016 AQMP (see pp. 4.7-9 to 4.7-11 of the Final Program EIR for the 2016 AQMP). Even after mitigation measure TR-1 was applied, the Final Program

⁴¹ See Section 4.7.4.1 Construction Impacts of the Final Program EIR for the 2016 AQMP

EIR for the 2016 AQMP concluded that the overall transportation and traffic impacts during construction activities would remain significant.

Transportation and Traffic Impacts from Operational Activities⁴²

Additional traffic will be generated by control measures in the 2016 AQMP such as Control Measure MOB-01 due to the need to transport increased waste for disposal (e.g., waste from scrapping of old equipment/vehicles), increased waste material for recycling, and increased use of products (e.g., alternative fuels/additives). It is not known what control strategies may be applied, which facilities may require additional trips, or how often these trips may be necessary. Therefore, no traffic estimates were prepared. The impacts of the 2016 AQMP on transportation and traffic were expected to be significant prior to mitigation. While mitigation measures could help minimize some of the impacts, the South Coast AQMD cannot predict how a future lead agency might choose to mitigate a particular significant traffic and transportation impact. Thus, the future traffic and transportation impacts were considered to be significant due to implementation of the 2016 AQMP control measures.

Mitigation Measures Adopted in the Final Program EIR for the 2016 AQMP for Transportation and Traffic⁴³

TR-1 Develop a construction management plan that includes at least the following items and requirements, if determined to be feasible by the Lead Agency:

- A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes;
- Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur;
- Location of construction staging areas for materials, equipment, and vehicles at an approved location;
- A process for responding to and tracking complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. The Lead Agency shall be informed who the Manager is prior to the issuance of the first permit;
- Provision for accommodation of pedestrian flow;
- As necessary, provision for parking management and spaces for all construction workers to ensure that construction workers do not park in street spaces;
- Any damage to the street caused by heavy equipment, or as a result of this construction, shall be repaired, at the project sponsor's expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to issuance of a final inspection of the building permit. All damage that is a threat to public health or safety shall be repaired immediately. The

⁴² See Section 4.7.4.2 Operational Activities of the Final Program EIR for the 2016 AQMP

⁴³ See Section 4.7.5 Mitigation Measures of the Final Program EIR for the 2022 AQMP

street shall be restored to its condition prior to the new construction as established by the Lead Agency (or other appropriate government agency) and/or photo documentation, at the sponsor's expense, before the issuance of a Certificate of Occupancy;

- Any heavy equipment brought to the construction site shall be transported by truck, where feasible;
- No materials or equipment shall be stored on the traveled roadway at any time;
- Prior to construction, a portable toilet facility and a debris box shall be installed on the site, and properly maintained through project completion;
- All equipment shall be equipped with mufflers;
- Prior to the end of each work-day during construction, the contractor or contractors shall pick up and properly dispose of all litter resulting from or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors; and
- Promote “least polluting” ways to connect people and goods to their destinations.

Cumulative Impacts⁴⁴

The Final Program EIR for the 2016 AQMP concluded that implementation of Control Measure MOB-01 could result in significant adverse transportation and traffic impacts from construction and operation. Construction activities would generate traffic associated with construction worker vehicles and trucks delivering equipment, materials and supplies to the project site during the duration of the construction activities. Construction activities, including potential lane closures, were considered to be significant. The 2016 AQMP control measures would result in significant adverse transportation and traffic impacts and, when combined with past, present, and reasonably foreseeable activities, and in particular with transportation projects projected in the 2016 RTP/SCS, would contribute to cumulatively considerable impacts to transportation and traffic identified in the 2016 RTP/SCS, therefore resulting in a significant cumulative impact. No additional mitigation measures to reduce the significant cumulative impacts to transportation and traffic were identified. Cumulative impacts to transportation and traffic from implementation of the 2016 AQMP would remain significant and unavoidable.

Summary of Transportation and Traffic Analyses

As explained in the section titled “Summary of Environmental Impacts of Additional Measures”, the Regional Off-Port Truck Charging and Fueling Infrastructure Measure would result in the deployment of zero-emission infrastructure in a similar manner to what was originally contemplated for Control Measure MOB-01 of the 2016 AQMP. Specifically, the Enhanced Clean Ship Incentive Program, the Zero Emission Truck Utilization Incentive, and the Regional Off-Port Truck Charging and Fueling Infrastructure Measure could generate increased demand for electricity and alternative fuels to support zero-emission equipment and vehicle utilization in the South Coast Air Basin similar to what was anticipated to occur under Control Measure MOB-01 of the 2016 AQMP. These three additional measures could accelerate the purchase of ZE-capable

⁴⁴ See Section 5.18.1 Cumulative Impacts of Transportation and Traffic of the Final Program EIR for the 2016 AQMP

or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles similar to what was anticipated for Control Measure MOB-01 of the 2016 AQMP.

The Final Program EIR for the 2022 AQMP concluded that, while implementation of control measures may temporarily increase construction-related traffic from installing air pollution control systems and infrastructure, such impacts would be short-term and localized. Therefore, the 2022 AQMP would enhance air quality goals without creating new traffic hazards or permanent transportation disruptions, and impacts to transportation would be less than significant. The Final Program EIR for the 2016 AQMP identified potential adverse transportation and traffic impacts, and Table 20 presents a summary of the transportation and traffic analyses conducted in the Final Program EIR for the 2016 AQMP for Control Measure MOB-01 of the 2016 AQMP. While the exact scope of the future actions that may occur under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain, the nature of the physical changes that would occur are expected to be the same or similar compared to those anticipated for Control Measure MOB-01 of the 2016 AQMP. Further, the potentially significant transportation and traffic impacts identified for Control Measure MOB-01 of the 2016 AQMP will be the same or similar if the additional measures are implemented.

In addition, the transportation and traffic mitigation measure from Control Measure MOB-01 of the 2016 AQMP, which was adopted to reduce the transportation and traffic impacts associated with the installation of charging and fueling infrastructure for Control Measure MOB-01 of the 2016 AQMP, was previously incorporated into the original Cooperative Agreement and is directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. As such, this transportation and traffic mitigation measure has been incorporated into the proposed Addendum to the Cooperative Agreement and will remain in effect.

The additional measures in the proposed Addendum to the Cooperative Agreement do not change the reasonably foreseeable activities resulting from implementing the 2016 AQMP and other projects considered in the Final Program EIR for the 2016 AQMP. Relative to cumulative effects, implementation of the additional measures, which are designed to implement Control Measure MOB-01 of the 2016 AQMP, is expected to represent a subset of the overall significant construction and operational transportation and traffic impacts previously identified in the Final Program EIR for the 2016 AQMP. Therefore, the conclusion of significant and unavoidable cumulative transportation and traffic impacts in the Final Program EIR for the 2016 AQMP will continue to apply to the additional measures and no new or additional cumulative impacts beyond those previously evaluated are expected.

Thus, the transportation and traffic analysis conducted in the Final Program EIR for 2016 AQMP for Control Measure MOB-01 of the 2016 AQMP adequately describes the potential transportation and traffic impacts and associated mitigation measure which are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. The additional measures in the proposed Addendum to the Cooperative Agreement do not add new significant transportation and traffic impacts during construction and operational activities or make the previously identified significant impacts worse. For these reasons, the additional measures in the proposed Addendum to the Cooperative Agreement do not require new or modified mitigation

measures. The previously adopted mitigation measure has been incorporated into the proposed Addendum to the Cooperative Agreement and will remain in effect.

Table 20. Summary of Transportation and Traffic in the Final Program EIR for the 2016 AQMP

Significance Criteria	Potentially Significant Impacts	Mitigation Measures	Cumulative Impacts
Based on 2016 AQMP the transportation and traffic impacts are significant if any of the following conditions occur: • Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E, or F for more than one month. • An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F. • A major roadway is closed to all through traffic, and no alternate route is available. • There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system. • The demand for parking facilities is substantially increased. • Water borne, rail car, or air traffic is substantially altered. • The need for more than 350 employees • An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day • Increase customer traffic by more than 700 visits per day.	Implementation of Control Measure MOB-01 from the 2016 AQMP would cause potentially significant transportation and traffic impacts from: • Construction activities which, although temporary in nature, could result in: a reduction of LOS at local intersections, partial or temporary road or lane closures, and additional traffic congestion; and • Operational activities which might create congestion and causing an increase in traffic	• TR-1 of the Final Program EIR for the 2016 AQMP	Cumulative impacts to transportation and traffic impacts for past, present, and reasonably foreseeable future projects would remain significant and unavoidable because of potential additional increases in traffic hazards and congestion during construction and operation activities.

ENVIRONMENTAL TOPIC AREAS WITH LESS THAN SIGNIFICANT OR NO IMPACTS

Since the additional measures in the proposed Addendum to Cooperative Agreement implement Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP without adding new impacts or modifying the previously analyzed impacts for each environmental topic area, the overall conclusions of less than significant or no impacts in the Final Program EIR for the 2022 AQMP and Final Program EIR for the 2016 AQMP will remain unchanged if the additional measures in the proposed Addendum to Cooperative Agreement is adopted.

Because the environmental topic areas of air quality and GHG emissions from operation and hydrology and water quality were identified as having potential adverse impacts, the following discussion first summarizes the analysis of less than significant impacts for the environmental topic areas of air quality and GHG emissions from operation, and hydrology and water quality before summarizing the analysis of the other environmental topic areas which have no significant adverse impacts.

Air Quality and Greenhouse Gas Emissions

The Final Program EIR for the 2022 AQMP and Final Program EIR for the 2016 AQMP concluded that implementation of control measures, such as MOB-01, would generate potentially significant air quality impacts during construction, less than significant operational air quality impacts, and potentially significant short-term increases in GHG emissions that would be offset and eventually result in a long-term net reduction in GHG emissions.

Air Quality Impacts from Operation⁴⁵

The Final Program EIR for the 2022 AQMP contemplated that implementation of Control Measure MOB-01 of 2022 AQMP has the potential to promote the transition to zero emission technologies, and this transition is expected to require additional electricity; increase the demand for alternative fuels production (e.g., hydrogen or renewable fuels), and the potential air quality impacts from production facilities; and accelerate the purchase of zero emission or low NO_x emitting equipment and vehicles that would replace older equipment and vehicles, thereby increasing the scrapping of equipment and vehicles faster than would normally occur.

Implementing Control Measure MOB-01 was expected to result in electricity demand increase by developing infrastructure to provide electricity at commercial marine ports for electrified vehicles and equipment; deploying cleaner technologies including the electrification of equipment currently powered by diesel fuel; and incentivizing the retirement and replacement of older vehicles and equipment with electric vehicles and equipment. While the Final Program EIR for 2022 AQMP identified the potential electricity usage associated with approximately half the mobile source control measures, specific data pertaining to the number of units that may be deployed was not available. Thus, a net increase in electricity usage as well as the air quality impacts associated with the potential increase in electrified mobile sources was not quantified. Nonetheless, gasoline and diesel fuel use and their corresponding combustion emissions were expected to decrease as the

⁴⁵ See Section 4.2.5.2 Criteria Pollutants – Operational Activities of the Final Program EIR for the 2022 AQMP and Section 4.1.6.2 Criteria Pollutants – Operational Activities of the Final Program EIR for the 2016 AQMP

demand for electricity increases, displaced by combustion emissions from natural gas, which is the primary fuel used for generating electricity within South Coast AQMD's jurisdiction. SB 100 requires that the electrical infrastructure needed to support the increased deployment of electric vehicles and other electrified equipment would need to have 100 percent renewable electricity generation by 2045. As mobile sources transition from combustion to electrified technology, the amount of emissions from combusting diesel and gasoline is expected to decline over time. However, the combustion emissions from natural gas utilized in electricity-producing equipment will increase over the short-term until the SB 100 goals of producing electricity from 100 percent renewables are achieved.

Implementing Control Measure MOB-01 was expected to increase the demand for alternative fuels including renewable transportation fuels (e.g., renewable diesel) and hydrogen. The Final Program EIR for the 2022 AQMP referenced several renewable fuels projects that were recently approved in California, and implementation of the control measures were anticipated to cause an increase in the demand for renewable fuels such that additional renewable fuels projects (e.g., hydrogen production facilities) may be needed. Due to the difficulty and length of time involved with siting and permitting new industrial facilities in general, the development of new facilities dedicated to producing alternative fuels is less likely to occur. Instead, existing industrial facilities are more likely to propose modifications in order to produce renewable fuels. Renewable fuels production requires energy input to reconfigure the molecules of the renewable feedstocks into transportation fuels, and the energy input is currently provided by large combustion sources (i.e., heaters or furnaces). In addition, renewable fuels production requires hydrogen as part of the reaction. Based on the CEQA analyses conducted for such projects, conversion of petroleum refinery equipment to be able to produce renewable fuels has the potential to decrease emissions facility-wide provided that hydrogen production facilities are already in place. However, when existing hydrogen production facilities are not available or cannot produce sufficient supplies of hydrogen needed to produce renewable fuel, a new hydrogen plant may be required which may cause significant adverse air quality impacts.

Implementing Control Measure MOB-01 was expected to accelerate the purchase of zero emission or low NO_x emitting equipment and vehicles that would replace older equipment and vehicles, thereby increasing the scrapping of equipment and vehicles faster than would normally occur. The actual quantity of equipment and vehicles that may be scrapped as a result of implementing these control measures rather than being moved for use elsewhere outside of South Coast AQMD's jurisdiction was not known. In addition, the available capacity of scrapping facilities to be able to handle and process the increased amount of equipment and vehicles to be scrapped was unknown. During the development of Rule 1610 – Old-Vehicle Scrapping, emissions associated with vehicle scrapping were estimated to be 0.088 pound of PM₁₀ emissions per vehicle scrapped. (South Coast AQMD, 1992.) According to an internet search conducted on August 15, 2022, there were eight auto recycling facilities operating within South Coast AQMD's jurisdiction.⁴⁶ Assuming that six vehicles can be crushed per hour (Martin, 2013) and each facility operates 10 hours per day, a total 480 vehicles can be crushed per day (8 facilities x 6 cars/hour x 10 hours/day = 480 cars/day). Therefore, vehicle scrapping has the potential to generate 42 pounds of PM₁₀ per day, which is less than the South Coast AQMD's operational significance threshold of 150 pounds per day. Applying the CARB's CEIDARS profile 900 ratio for unspecified sources of 0.6 pound of PM_{2.5}

⁴⁶ State of California Auto Dismantlers Association, 2025, Members Direct Search, <https://scada1.com/chapters.htm>

per pound of PM₁₀^{47, 48}, a corresponding 25 pounds per day of PM_{2.5} emissions can be expected, and this is less than the PM_{2.5} significance threshold of 55 pounds per day.

Thus, operational activities resulting from implementation of control measures such as MOB-01 in the 2022 AQMP were expected to generate less than significant criteria pollutant air quality impacts. Since no significant air quality impacts relating to operational activities were identified, no mitigation measures were necessary or required.

The Final Program EIR for the 2016 AQMP contemplated that implementing Control Measure MOB-01 has the potential to increase the use of alternative fuels such as biodiesel, LNG, CNG, ethanol, and hydrogen. The availability of the producers of alternative fuels to meet the increase in demand has the potential for an increase in emissions associated with the increased production. Production of alternative fuels such as LNG and CNG require little processing with less emissions than the production of refined petroleum products such as gasoline, diesel, and jet fuel. While biodiesel and ethanol production do require more processing than LNG and CNG, the production processes are less complicated than petroleum refining. Biodiesel is made from a catalytic chemical process similar to one or two processes in a typical refinery, which will have many units available to produce refined products from crude oil. Ethanol is produced by fermentation. Biodiesel and ethanol can be made from renewable sources such as vegetable oils, sugar cane, corn, and animal fats. Therefore, the production of alternative fuels, especially biofuels, typically generates less air emissions than a petroleum refinery would when producing similar gasoline or gasoline equivalent amounts. Any increase in emissions attributable to an increased production of alternative fuels would be offset by reduced levels of petroleum fuel production and transportation of crude oil primarily from overseas and possibly by rail, as diesel and gasoline demand decreases.

Implementing Control Measure MOB-01 would reduce mobile source emissions, in particular, emissions of diesel particulate matter (DPM) from engine exhaust, which is a known carcinogen, as well as toxic components of gasoline such as benzene and 1,3-butadiene. This mobile source control measure would result in replacing existing vehicles or equipment with more efficient vehicles or equipment, zero emission electric vehicles or equipment, or alternative fueled vehicles or equipment. Combustion emissions of alternative fuels have trace amounts of methanol and aldehyde, but, generally, are considered to be cleaner and less toxic than diesel or gasoline fueled vehicles. Emissions from power generating equipment may include trace amounts of benzene, aldehydes, metals, and polynuclear aromatic hydrocarbons. However, if the process being electrified was previously powered by direct combustion of fossil fuels, then electrification was expected to result in an overall decrease in toxic emissions.

Thus, operational activities resulting from implementation of control measures, such as MOB-01 in the 2016 AQMP were expected to generate less than significant criteria pollutant air quality impacts. Since no significant air quality impacts relating to operational activities were identified, no mitigation measures were necessary or required.

⁴⁷ CARB California Emissions Inventory Data Analysis and Reporting System (CEIDARS) is a database management system developed to track statewide criteria pollutant and air toxic emissions; <https://ww2.arb.ca.gov/capp/cst/emission-inventories>

⁴⁸ South Coast AQMD, 2006. Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, Table A. [http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-\(pm\)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf).

Greenhouse Gas Emissions Impacts⁴⁹

The Final Program EIR for the 2022 AQMP contemplated that implementation of Control Measure MOB-01 would cause an increase in GHGs due to construction activities. Both the Final Program EIR for the 2022 AQMP and Final Program EIR for the 2016 AQMP contemplated that the control measure would cause an increase in GHGs due to increased electricity usage, but also a decrease in GHGs due to the conversion from conventional fuels to alternative fuels.

Implementing Control Measure MOB-01 may involve construction activities which may emit GHGs. South Coast AQMD policy regarding GHG emissions from construction is to amortize construction emissions over a 30-year timeframe and add the result to operational emissions. The magnitude of construction GHG emissions will vary greatly depending on the project. Installation of electrical infrastructure projects (e.g., charging stations) typically does not require large amounts of construction equipment as they are installed in parking lots of existing facilities. Minimal trenching and foundation work is necessary, and these actions typically require the most construction equipment. On the other hand, alternative fuels production facilities would be much larger projects involving more, and larger capacity construction equipment which may rely on diesel or gasoline to operate. The combined GHG construction emissions from all projects requiring construction as a result of implementing the control measures in the 2022 AQMP, would represent a relatively small portion of the total GHG emission impacts, especially considering that the operational GHG emissions will be substantially reduced relative to the existing setting and will likely offset any increases in construction GHGs.

Of the total fuel consumed in Los Angeles, Orange, Riverside and San Bernardino counties, transportation sources account for over 50 percent of fuel use, and these sources are also the main contributors to NO_x emissions. Within the transportation sector, diesel-powered sources emit the majority of NO_x. With regards to mobile source control measures, accelerating the replacement of conventional vehicles with electric vehicles or alternative fueled vehicles into fleets regulated by the South Coast AQMD may produce emissions from increased electricity generation meanwhile the zero emission vehicles will not emit anything, and the alternative fueled vehicles will emit fewer criteria pollutants, fewer toxics, and fewer GHGs. As such, the net effect of replacing gasoline and diesel mobile sources is expected to have greater overall GHG emission reduction benefits because the GHG emissions produced from generating the electricity needed to power one electric vehicle are fewer than the GHG emissions from one gasoline or diesel vehicle.

As mentioned in the Energy section, the Final Program EIR for the 2022 AQMP estimated that, compared to the 2018 baseline for electricity demand, implementation of the 2022 AQMP control measures is expected to increase electricity use by 13,429 GWh, approximately an 11 percent increase, by 2037 which will produce approximately 2.76 million metric tons (MMT) of GHG emissions.⁵⁰ The Final Program EIR for the 2016 AQMP estimated that, compared to the 2014 baseline, energy demand from 2016 AQMP control measures was expected to increase by 10,227 GWh, a 7.8 percent increase, by the year 2023 and produce 3.4907 million metric tons (MMT) of

⁴⁹ See Section 4.2.5.5 Greenhouse Gas Emissions of the Final Program EIR for the 2022 AQMP and Section 4.1.6.4 Greenhouse Gas Emissions of the Final Program EIR for the 2016 AQMP

⁵⁰ 2020 eGRID data of 453 lb/MWh for SCE, U.S. EPA, 2022, <https://epa.gov/egrid/download-data>.

GHG emissions. Similarly, compared to the 2014 baseline, energy demand from 2016 AQMP control measures is expected to increase by 18,029 GWh, a 12.7 percent increase, by the year 2031 and produce 6.1496 MMT of GHG emissions.

The Final Program EIR for the 2022 AQMP estimated that implementing 2022 AQMP mobile source control measures has the potential to reduce total annual petroleum-based fuel use by approximately 1.5 billion gallons in milestone year 2030 and by approximately 1.8 billion gallons in milestone year 2037. Using a CO₂ emission factor of 8.10 kilograms per gallon (kg/gal) for gasoline and a CO₂ emission factor of 10.19 kg/gal for diesel, GHG emission reductions can be calculated for both gasoline and diesel in each milestone year. Similarly, at the time of developing the 2016 AQMP, the Final Program EIR for the 2016 AQMP estimated that implementing 2016 AQMP mobile source control measures has the potential to reduce total annual petroleum fuel use by approximately 530 million gallons in milestone year 2023. By milestone year 2031, total annual petroleum fuel use was expected to reduce by approximately 870 million gallons. Tables 21 and 22, which are Table 4.2-16 Estimated GHG Emissions Impacts from 2022 AQMP Control Measures, from the Final Program EIR for the 2022 AQMP and Table 4.1-6 Estimated GHG Emission Impacts from 2016 AQMP Control Measures, from the Final Program EIR for the 2016 AQMP, show that the net effect of implementing the AQMP control measures while concurrently reducing petroleum-based fuel use in mobile sources is expected to result in an overall reduction of GHG emissions.

Table 21. Estimated GHG Emissions Impacts from 2022 AQMP Control Measures

Description	2037 CO₂eq Emissions (MMT)
Increased Electricity Use	2.18
Change in Gasoline Use	-2.23
Change in Diesel Use	-15.57
Net Change in Emissions	-15.62

Table 22. Estimated GHG Emission Impacts from 2016 AQMP Control Measures

Description	2023 CO₂eq Emissions^(a) (million metric tons)	2031 CO₂eq Emissions^(a) (million metric tons)
Increased Electricity ^(b)	3.4907	6.1496
Change in Gasoline Use	-2.9766	-3.1238
Change in Diesel Use	-4.2970	-3.4305
Net Change in Emissions	-3.7829	-0.4047

(a) Source: Emission factors are from CARB, et al., 2010.

(b) Electricity generation is weighted by population in the LADWP and SCE service areas.

Negative numbers represent emission reductions.

Converting gasoline- and diesel-fired sources to electrified equipment reliant on electricity that is primarily generated by natural gas and renewable sources is expected to result in an overall decrease of GHG emissions. The electricity needed to power zero-emission equipment is expected to be provided by public utility companies. Most existing power generating facilities are subject to Assembly Bill 32 and will be required to reduce their GHG emissions. Moreover, any future power generating stations that may be built in response to meeting the future electricity demand

would be subject to stringent emission control requirements, including those for GHG emissions. Therefore, after taking into consideration the short-term increases in GHG emissions which will be offset by substantial reductions of GHG emissions from the decreased use of gasoline and diesel fuels combined with the overarching goal of transitioning to electricity sourced with 100 percent renewables by 2045 as required by Senate Bill 100 (SB 100, De León) the additional electricity that may be needed to implement the 2022 AQMP control measures has been determined to generate less than significant GHG emission impacts.

Implementing 2022 AQMP control measures also have the potential to increase the use of alternative fuels. Alternative fuels generally generate fewer or equivalent GHG emissions compared to gasoline and diesel when combusted. When comparing the overall benefit between various types of alternative fuels, the production methods used to generate the fuels must be considered (sometimes referred to as well-to-wheel energy and emission impacts). A comparison of various production methods showed that using hydrogen as a fuel reduces more GHG emissions when compared to reformulated gasoline, except when the hydrogen is produced by electrolysis using grid-supplied electricity, in which case the comparison is dependent on the renewable to non-renewable mix of the electricity generation.⁵¹ While alternative fuel and hydrogen production facilities may increase GHG emissions, the overall GHG reductions associated with the use of the transportation fuels produced were expected to be greater than the GHG emissions from producing the fuels.

Implementing control measures such as MOB-01 is expected to have GHG emissions associated with construction over the short-term; however, construction GHG emissions are amortized over 30 years and are much less than the overall potential operational emissions reductions of GHGs over the long-term. GHG emissions from the generation and use of additional electricity and alternative fuels, were not expected to be significant because there would be concurrent decreases in the use of diesel- and gasoline-fueled equipment over time as more electric and alternative fuel vehicles are deployed. Finally, electricity generation is required to transition to 100 percent renewables by 2045 as required by SB 100. Thus, implementation of Control Measure MOB-01 was expected to result in potentially significant GHG operational emissions over the short-term and less than significant GHG emission impacts over the long-term. Since less than significant GHG impacts overall were identified, no mitigation measures were necessary or required.

Relative to cumulative impacts, the Final Program EIR for the 2022 AQMP and Final Program EIR for the 2016 AQMP concluded that implementation of the 2022 AQMP, when combined with past, present, and reasonably foreseeable activities, would contribute to impacts to air quality during construction, but would not contribute to cumulatively considerable impacts to air quality during operation or GHG emissions.

As explained in the section titled “Summary of Environmental Impacts of Additional Measures”, the Regional Off-Port Truck Charging and Fueling Infrastructure Measure would result in the deployment of zero-emission infrastructure in a similar manner to what was originally contemplated for Control Measures MOB-01 and MOB-15 of the 2022 AQMP, and Control Measure MOB-01 of the 2016 AQMP. Similar to what was anticipated to occur under Control

⁵¹ Alternative Fuels Data Center, 2022. Fuel Cell Electric Vehicle Emissions, https://afdc.energy.gov/vehicles/emissions_hydrogen.html, accessed August 17, 2022.

Measure MOB-01 of the 2022 AQMP and 2016 AQMP, the Enhanced Clean Ship Incentive Program, the Zero Emission Truck Utilization Incentive, and the Regional Off-Port Truck Charging and Fueling Infrastructure Measure could generate increased demand for electricity and alternative fuels to support zero-emission equipment and vehicle utilization in the South Coast Air Basin, and could accelerate the purchase of ZE-capable or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles.

While the exact scope of the future actions that may occur under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain, the nature of the physical changes that would occur are expected to be the same or similar compared to those anticipated for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. Further, the less than significant air quality impacts during operation and greenhouse gas emissions impacts identified for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP will be the same or similar if the additional measures are implemented.

The additional measures in the proposed Addendum to the Cooperative Agreement do not change the reasonably foreseeable activities resulting from implementing the 2022 AQMP, 2016 AQMP, and other projects considered in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP, such as the SCAG Connect SoCal Plan and the CARB 2022 State SIP Strategy. Implementation of the additional measures, which are designed to implement Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, will not change the prior conclusion that the project will not contribute to cumulatively considerable impacts to air quality during operation or GHG emissions. It will also not change the prior overall conclusion that, due to significant air quality impacts during construction, there are cumulatively considerable impacts to the overall environmental topic area of air quality.

Thus, the analyses of operational air quality and greenhouse gas emissions conducted in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP adequately describe the potential air quality impacts during operation and greenhouse gas emissions impacts which are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. The additional measures in the proposed Addendum to the Cooperative Agreement do not add new significant air quality impacts during operation or greenhouse gas emissions impacts, or make the previously identified impacts worse. For these reasons, the additional measures in the proposed Addendum to the Cooperative Agreement do not require new or modified mitigation measures.

Hydrology and Water Quality

The Notice of Preparation/Initial Study for the 2022 AQMP concluded that implementation of Control Measure MOB-01 would have no potential adverse impacts related to hydrology and water quality; therefore, it was not further analyzed in the Final Program EIR for the 2022 AQMP. However, the Final Program EIR for the 2016 AQMP concluded that implementation of Control Measure MOB-01 would cause less than significant impacts to surface and ground water quality from accidental spills of alternative fuels or additives, and potential illegal disposal of batteries from electric vehicles and hybrids. Thus, the following summary will focus only on the hydrology

and water quality impacts identified in the Final Program EIR for the 2016 AQMP for Control Measure MOB-01.

Significance Criteria

Hydrology and water quality impacts are significant if any of the following conditions occur:

Water Demand

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Hydrology and Water Quality Impacts from Accidental Spills of Alternative Fuels or Additives⁵²

The Final Program EIR for the 2016 AQMP identified that implementation of Control Measure MOB-01 could result in the increased penetration of electric vehicle vehicles but may also result in the increased use of alternative fuels (e.g., biodiesel fuels, compressed natural gas, liquefied natural gas, and hydrogen). In general, alternative fuels are expected to be less toxic than conventional fuels and follow a similar path as the low sulfur diesel. Biodiesel is a fuel derived from biological sources such as vegetable oils or animal fats. Biodiesel can be used pure or blended with conventional diesel. Because biodiesel is typically made from vegetable oils or animal fats, it is generally less toxic and more biodegradable than conventional diesel, so the water quality impacts from a spill of biodiesel would be less than a spill of conventional diesel. The most common blended biodiesel is B20, which is 20 percent biodiesel and 80 percent conventional diesel. Therefore, the potential water quality impacts from the transport and storage of biodiesel

⁵² See Section 4.5.3.2 Water Quality Impacts of the Final Program EIR for the 2022 AQMP and Section 4.4.4.2.2 Accidental Spills of the Final Program EIR for the 2016 AQMP

and biodiesel blends were not expected to be substantially different than the transport and storage of conventional diesel.

The other types of alternative fuels that may be used as part of implementing Control Measure MOB-01 in the 2016 AQMP include compressed natural gas, liquefied natural gas, and hydrogen. Because all of these fuels exist as a gas at standard temperatures and pressures, a leak of any of these fuels would result in an airborne release, and not a release that could adversely affect water quality. There are a number of rules and regulations currently in place that are designed to minimize the potential impacts from underground leaking storage tanks and spills from fueling activities, including requirements for the construction of the storage tanks, requirements for double containment, and installation of leak detection systems. These regulations would also apply to any leaks of alternative fuels from storage tanks. Thus, the use of alternative fuels was not expected to result in any greater adverse water quality impacts than the current use of conventional fuels like diesel or gasoline.

Moreover, the Final Program EIR for 2016 AQMP identified the possibility of accidental spills from implementation of Control Measure MOB-01. A spill at any of the affected facilities could occur under upset conditions such as an earthquake. Spills could also occur from corrosion of containers, piping and process equipment, and leaks from seals or gaskets at pumps and flanges. A major earthquake would be a potential cause of a large spill. Other causes could include human or mechanical error. Construction of the vessels, and foundations in accordance with the California Building Code requirements helps structures to resist major earthquakes without collapse but may result in some structural and non-structural damage following a major earthquake. As required by U.S. EPA's spill prevention control and countermeasure regulations, all of the affected facilities are required to have emergency spill containment equipment and would implement spill control measures in the event of an earthquake. Storage tanks typically have secondary containment such as a berm, which would be capable of containing 110 percent of the contents of the storage tanks onsite. Therefore, should a rupture occur, the contents of the tank would be collected within the containment system and pumped to an appropriate storage tank. Spills at affected industrial or commercial facilities would be collected within containment structures. Large spills outside of containment areas at affected facilities that could occur when transferring the material from a transport truck to a storage tank are expected to be captured by the process water system where they could be collected and controlled. Spilled material would be collected and pumped to an appropriate tank or sent off-site if the materials cannot be used on-site. The existing rules and requirements that limit the extent or prevent spills are expected to minimize impacts on water quality to less than significant levels. For this reason, accidental spills were not expected to create significant water quality impacts.

Hydrology and Water Quality Impacts from Illegal Disposal of Batteries⁵³

Implementation of Control Measure MOB-01 of the 2016 AQMP could contribute to an increased use of electric vehicles and other mobile sources. Since some batteries contain toxic materials, water quality impacts are possible if the batteries are disposed of in an unsafe manner, such as by illegal dumping or by disposal in a landfill. As interest in the use of electric vehicles has increased over the years, battery technologies have been developing and improving. Most battery technologies employ materials that are recyclable, since regulatory requirements and market forces encourage recycling. California laws create incentives and requirements for disposal of recycling of batteries as follows.

- Under CARB regulations, to certify either a new ZEV or retrofit an existing ZEV, automakers must complete CARB's certification application, which must include a battery disposal plan. Thus, current regulations require ZEV manufacturers to take account for the full life-cycle of car batteries and to plan for safe disposal or recycling of battery materials. For example, Toyota has offered \$200 per battery to minimize illegal disposal of batteries.
- California and federal law require the recycling of lead-acid batteries (Health and Safety Code Section 25215). Spent lead-acid batteries being reclaimed are regulated under 22 CCR Section 66266.80 and 66266.81, and 40 CFR Part 266, Subpart G.
- California law requires state agencies to purchase car batteries made from recycled material (Public Resources Code Section 42440).
- California passed the Household Universal Waste Rule in February 2006, which prohibits the landfill disposal of household wastes such as batteries, electronic devices, and fluorescent light bulbs by anyone.

Existing battery recovery and recycling programs have limited the disposal of batteries in landfills. For example, the recycling of lead-acid and nickel-cadmium batteries is already a well-established activity. One secondary lead smelter (facilities that recycle lead-bearing materials) is currently located within the Basin. The secondary lead smelter receives spent lead-acid batteries and other lead bearing material and processes them to recover lead and polypropylene (from the battery casings). Acid is collected and recycled as a neutralizing agent in the wastewater treatment system. Other facilities available for battery recycling are located outside of the Basin. Further penetration of partial-zero and zero emission mobile sources in the Basin is expected to result in a reduction in the use of lead-acid batteries and a subsequent reduction in the lead-acid batteries that need to be recycled, after the vehicle/equipment is scrapped or has left the Basin.

Li-ion batteries, which are more common in electric vehicles, are also becoming more popular in hybrids. Because Li-ion batteries have the potential for after-automotive use, destructive recycling can be postponed for years even after an EV or hybrid battery can no longer hold and discharge sufficient electricity to power a car's motor. The battery pack can still carry a tremendous amount of energy. Battery manufacturers project that the battery packs will still be able to operate at about 80 percent of capacity the time they must be retired from automotive use (Edmunds, 2014.) Auto companies are partnering with battery, recycling, and electronics firms to figure out and develop

⁵³ See Section 4.4.4.2.4 Electric Vehicles of the Final Program EIR for the 2016 AQMP.

post-automotive markets and applications for Li-ion battery packs (Green Car Reports, 2014.) With the opportunity for other uses, Li-ion battery recycling may not be as necessary as recycling of lead-acid batteries.

The illegal disposal of batteries from EVs and hybrids has the potential to result in significant water quality impacts by allowing toxic or hazardous metals or acids to leach into surface or ground waters. However, battery recycling is required by law and since batteries have value, the illegal or improper disposal of batteries is expected to be uncommon. For example, because some manufacturers pay for used EV/hybrid batteries, the value, size, and length of life of NiMH and Li-ion batteries are such that recycling is expected to be more predominate than with lead acid batteries. Therefore, the use of EVs and hybrids is not expected to result in an increase in the illegal or improper disposal of batteries because these types of batteries are required to be recycled and thus, reducing the potential water quality impacts caused by illegal disposal. Based on the foregoing analysis, less than significant adverse water quality impacts are expected from the increased use of EV and hybrid vehicles and no new mitigation measures would be required.

Relative to cumulative impacts, the Final Program EIR for the 2016 AQMP concluded that implementation of the 2016 AQMP would not contribute to cumulatively considerable impacts to water quality but would contribute to cumulatively considerable impacts to water demand.

As explained in the section titled “Summary of Environmental Impacts of Additional Measures”, the Regional Off-Port Truck Charging and Fueling Infrastructure Measure would result in the deployment of zero-emission infrastructure in a similar manner to what was originally contemplated for Control Measure MOB-01 of the 2016 AQMP. Similar to what was anticipated to occur under Control Measure MOB-01 of the 2016 AQMP, the Enhanced Clean Ship Incentive Program, the Zero Emission Truck Utilization Incentive, and the Regional Off-Port Truck Charging and Fueling Infrastructure Measure could generate increased demand for electricity and alternative fuels to support zero-emission equipment and vehicle utilization in the South Coast Air Basin, and could accelerate the purchase of ZE-capable or low-NOx emitting equipment and vehicles that would replace older equipment and vehicles.

While the exact scope of the future actions that may occur under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain, the nature of the physical changes that would occur are expected to be the same or similar compared to those anticipated for Control Measure MOB-01 of the 2016 AQMP. Further, the less than significant hydrology and water quality impacts identified for Control Measure MOB-01 of the 2016 AQMP will be the same or similar if the additional measures are implemented.

The additional measures in the proposed Addendum to the Cooperative Agreement do not change the reasonably foreseeable activities resulting from implementing the 2016 AQMP and other projects considered in the Final Program EIR for the 2016 AQMP. Implementation of the additional measures, which are designed to implement Control Measure MOB-01 of the 2016 AQMP, will not change the prior conclusion that the project will not contribute to cumulatively considerable impacts to water quality. It will also not change the prior overall conclusion that, due to significant water demand from the implementation of other control measures in the 2016

AQMP, there are cumulatively considerable impacts to the overall environmental topic area of hydrology and water quality.

Thus, the hydrology and water quality analysis conducted in the Final Program EIR for the 2016 AQMP for Control Measure MOB-01 of the 2016 AQMP adequately describes the potential hydrology and water quality impacts which are directly applicable to the additional measures in the proposed Addendum to the Cooperative Agreement. The additional measures in the proposed Addendum to the Cooperative Agreement do not add new significant hydrology and water quality impacts, or make the previously identified impacts worse. For these reasons, the additional measures in the proposed Addendum to the Cooperative Agreement do not require new mitigation measures.

Other Environmental Topic Areas

The 2022 AQMP and 2016 AQMP were designed to reduce emissions from existing emission sources and promote the use of the cleanest technology available. The 2022 AQMP and 2016 AQMP would accelerate the replacement of high-emitting mobile sources with low-Nox- and zero-emission mobile sources; encourage the use of lower-emitting alternative fuels; affect stationary sources at existing commercial/industrial facilities and residential developments; develop incentives to remove/replace higher emitting equipment; establish greater control of industrial stationary sources; control indirect sources of emissions; improve energy efficiency; improve emission leak detection and maintenance procedures; and establish educational and outreach programs. The analysis provided in the Final Program EIR for 2022 AQMP concluded that the following environmental topic areas would have no potential adverse impacts due to implementation of Control Measure MOB-01: aesthetics, agriculture and forestry resources, biological resources, cultural and tribal cultural resources, geology and soils, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, transportation, and wildfire. Since no impacts were identified, no mitigation measures were necessary or required for these environmental topic areas.

Similarly, the analysis provided in the Final Program EIR for 2016 AQMP concluded that the following environmental topic areas would have no potential impacts due to implementation of Control Measure MOB-01: agriculture and forestry resources, biological resources, cultural and tribal cultural resources, geology and soils, land use and planning, mineral resources, noise, population and housing, public services, recreation, and wildfire. Since no impacts were identified, no mitigation measures were necessary or required for these environmental topic areas.

While the exact scope of the future actions that may occur under the additional measures in the proposed Addendum to the Cooperative Agreement is still uncertain, the nature of the physical changes that would occur are expected to be the same or similar compared to those anticipated for Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP. Since the additional measures in the proposed Addendum to Cooperative Agreement implement Control Measure MOB-01 without adding new or modifying the previously analyzed impacts for each environmental topic area, the overall conclusions of no impacts for these environmental topic areas in the Final Program EIRs for the 2022 AQMP and 2016 AQMP will remain unchanged if the additional measures in the proposed Addendum to Cooperative Agreement are implemented.

It should be noted that, while Control Measure MOB-01 of the 2016 AQMP contemplated the use of barge-based bonnet technology to reduce emissions from ocean going vessels, the additional measures in the proposed Addendum to Cooperative Agreement do not consider its use. Therefore, the environmental impacts resulting from use of barge-based bonnet technology (i.e., potentially significant aesthetics impacts) will not occur under the additional measures in the proposed Addendum to Cooperative Agreement. As such, the discussion of the environmental topic area of aesthetics is provided in this section alongside the discussion of the other environmental topic areas with conclusions of either less than significant impacts or no impacts.

The following summaries provide the background regarding the conclusions of no potential adverse impacts for each of the aforementioned environmental topic areas.

Aesthetics⁵⁴: For both the 2022 AQMP and 2016 AQMP, the majority of control measures implemented within South Coast AQMD's jurisdiction would typically affect industrial, institutional, or commercial facilities located in appropriately zoned areas (e.g., industrial and commercial areas) that are not usually associated with scenic resources. Further, modifications would typically occur within the confines of the affected facilities, or because of the nature of the business (e.g., commercial or industrial), can easily blend in with the facilities with little or no noticeable effect on adjacent areas. Also improved air quality would provide benefits to scenic vistas and resources throughout South Coast AQMD's jurisdiction. Mobile source control measures were designed to accelerate the replacement of high emitting on-road and off-road mobile sources with lower-emitting mobile sources. Accelerating the penetration of lower-emitting mobile sources into market would not be expected to adversely affect scenic resources because these strategies do not require construction or disturbance to such resources.

The Final Program EIR for the 2022 AQMP concluded that implementation of control measures, such as Control Measure MOB-01, was not expected to create additional demand for new lighting or exposed combustion sources (e.g., flares) that could create glare, adversely affecting day or nighttime views in any areas. Facilities affected by the control measures typically make modifications to light sources within property borders, so any new light sources would typically be inside a building or not noticeable because of the presence of existing outdoor light sources. Based on these considerations, less than significant aesthetic impacts were expected due to the implementation of the 2022 AQMP.

The Final Program EIR for the 2016 AQMP contemplated that implementation of Control Measure MOB-01 may involve use of barge-based bonnet technology to reduce emissions from ocean going vessels. While the use of bonnet technology could degrade the existing visual character or quality of the immediate surrounding area, it is unlikely that use of bonnet technology would be visible from sensitive public vantage points due to the presence of intervening structures at the ports. Nonetheless, the Final Program EIR for the 2016 AQMP concluded that implementation of control measures, such as MOB-01, may substantially degrade the existing visual character or quality of a site and its surroundings from use of bonnet technology. Because the aesthetics impacts from implementing the 2016 AQMP were concluded to be significant, feasible mitigation measures AE-

⁵⁴ See Section 4.8.1 Aesthetics of the Final Program EIR for the 2022 AQMP and Section 4.8 Aesthetics of the Final Program EIR for the 2016 AQMP

1 to AE-5 were adopted in the Final Program EIR for the 2016 AQMP. Even after mitigation measures were applied, the Final Program EIR for the 2016 AQMP concluded that the overall aesthetics impacts would remain significant. The 2016 AQMP control measures would result in significant adverse aesthetics impacts and, when combined with past, present, and reasonably foreseeable activities, and in particular with transportation projects projected in the 2016 RTP/SCS, would contribute to cumulatively considerable impacts to aesthetics identified in the 2016 RTP/SCS, therefore resulting in a significant cumulative impact. No additional mitigation measures to reduce the significant cumulative impacts to aesthetics were identified. Cumulative impacts to aesthetics from implementation of the 2016 AQMP would remain significant and unavoidable.

Agriculture and Forestry Resources⁵⁵: The Final Program EIRs for the 2022 AQMP and 2016 AQMP concluded that implementation of Control Measure MOB-01, was not expected to generate any new construction of buildings or other structures that would require conversion of farmland to non-agricultural use, conflict with zoning for agricultural uses, or a Williamson Act contract. Further, the analysis concluded that implementing the 2022 AQMP and 2016 AQMP would typically affect existing facilities that are located in appropriately zoned areas. Should any new facilities be constructed and operated, their planning would occur for reasons other than implementation of the 2022 AQMP and the 2016 AQMP. New facilities and improvements to existing facilities would continue to be subject to project-level review, including review of agricultural impacts under CEQA by the applicable local land use authority. Therefore, implementation of the 2022 AQMP and 2016 AQMP would not affect Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, or conflict with a Williamson Act contract, if implemented. Physical changes associated with the 2022 AQMP and 2016 AQMP were expected to occur at previously developed sites and would not require construction to occur in undeveloped areas where agricultural and forest resources are more likely to exist. The 2022 AQMP and 2016 AQMP, including control measures related to mobile sources, would have no direct or indirect effects on agricultural or forest land resources because their focus is on achieving emission reductions by increasing the penetration of zero- and low-NOx technologies into market. The 2022 AQMP and 2016 AQMP could provide benefits to agricultural and forest land resources by improving air quality in the region, thus reducing the adverse oxidation impacts of ozone on plants and animals. Based on these considerations, no agriculture and forestry resources impacts were expected due to the implementation of the 2022 AQMP and 2016 AQMP.

Biological Resources: Implementation of the 2022 AQMP and 2016 AQMP control measures, including Control Measure MOB-01, was not expected to result in habitat modification, adversely affect any riparian habitat, or interfere with the movement of any native resident or migratory fish or wildlife species. Facilities affected by the 2022 AQMP and 2016 AQMP control measures have already been disturbed and typically do not contain open space, water features, or natural vegetation. Sites might contain landscaping that consists of ornamental trees, vegetation, and turf. The sites of the affected facilities that would be subject to the control measures were not expected to support riparian habitat, federally protected wetlands, or migratory corridors because they are existing, developed, and established industrial and commercial facilities. Additionally, special status plants, animals, or natural communities identified in local or regional plans, policies, or

⁵⁵ See Section 4.8.2 Agriculture and Forestry Resources of the Final Program EIR for the 2022 AQMP and Section 4.9.1 Agriculture and Forestry Resources of the Final Program EIR for the 2016 AQMP

regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service were not expected to be found on or in close proximity to the affected facilities. Construction projects that impact affected species were not reasonably foreseeable as part of implementation of the 2022 AQMP and 2016 AQMP. Any new development potentially affecting biological resources would not be as a result of the 2022 AQMP and 2016 AQMP control measures and approval of those projects, including evaluation of their environmental impacts, would occur regardless of the 2022 AQMP and 2016 AQMP and would be subject to project-level CEQA review. Based upon these considerations, no biological resources impacts are expected from implementing the 2022 AQMP and 2016 AQMP.

Cultural and Tribal Cultural Resources⁵⁶: Commercial and industrial areas are generally not located in historic districts. For this reason, the Final Program EIRs for the 2022 AQMP and 2016 AQMP concluded that the implementation of Control Measure MOB-01 would not be expected to cause a substantial adverse change in the significance of a historical resource. The South Coast AQMD also provided a formal notice of the Notice of Preparation/Initial Study (NOP/IS) prepared for the 2022 AQMP and 2016 AQMP to all California Native American Tribes (Tribes) that requested to be on the Native American Heritage Commission's (NAHC) notification list per Public Resources Code Section 21080.3.1(b)(1). The NAHC notification list provides a 30-day period during which a Tribe may respond to the formal notice, in writing, requesting consultation on a proposed project. No Tribes requested consultation during the 30-day comment period of each NOP/IS. The provisions of CEQA, Public Resources Code Section 21080.3.1 et seq. (also known as AB 52), require meaningful consultation with California Native American Tribes on potential impacts to tribal cultural resources, as defined in Public Resources Code Section 21074. Tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either eligible or listed in the California Register of Historical Resources or local register of historical resources. As part of the AB 52 process, Native American tribes must submit a written request to the relevant lead agency if it wishes to be notified of projects that require CEQA public noticing and are within its traditionally and culturally affiliated geographical area. Construction resulting from implementation of the control measures would need to obtain city or county planning department approvals prior to commencement of any construction activities, and would be subject to project-level review, including separate tribal consultation pursuant to AB 52, as applicable, to address site-specific requests identified by the tribes. Therefore, impacts to tribal cultural resources were considered to be less than significant, and the 2022 AQMP and 2016 AQMP were not expected to cause any impacts to significant historic cultural resources.

Geology and Soils⁵⁷: The 2022 AQMP and 2016 AQMP, including Control Measure MOB-01, would not directly or indirectly expose people or structures to earthquake faults, seismic shaking, seismic-related ground failure including liquefaction, lateral spreading, landslides, mudslides, or substantial soil erosion. Affected facilities or modifications to affected facilities, including the construction of new electricity or hydrogen infrastructure, would be required to comply with relevant California Building Code requirements in effect at the time of initial construction or

⁵⁶ See Section 4.8.4 Cultural and Tribal Cultural Resources of the Final Program EIR for the 2022 AQMP and Section 4.9.3 Cultural Resources of the Final Program EIR for the 2016 AQMP

⁵⁷ See Section 4.8.5 Geology and Soils of the Final Program EIR for the 2022 AQMP and Section 4.9.4 Geology and Soils of the Final Program EIR for the 2016 AQMP

modification of a structure. Projects that occur as a result of the 2022 AQMP and 2016 AQMP are largely expected to occur in commercial and industrial areas and have a small construction footprint. Construction activities would be subject to local, regional, and state codes and requirements for erosion control and grading during construction. Projects would be subject to the National Pollution Discharge Elimination System (NPDES) permitting regulations, including the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) as applicable. Construction contractors would be required to prepare and implement a SWPPP and associated Best Management Practices (BMPs) in compliance with the Construction General Permit (CGP) during grading and construction of any site that disturbs more than one acre of land. Adherence to the BMPs in the SWPPP and adherence with local, regional, and state codes and requirements for erosion control and grading during construction would reduce, prevent, or minimize soil erosion from grading and construction activities. Therefore, soil erosion impacts were concluded to be less than significant.

Paleontological resources, commonly known as fossils, are the recognizable physical remains, or evidence of past life forms found on earth in past geological periods and can include bones, shells, leaves, tracks, burrows, and impressions. Ground-disturbing activities such as grading or excavation have the potential to unearth paleontological resources. Most facilities affected by 2022 AQMP and 2016 AQMP control measures, including Control Measure MOB-01, would be located on previously disturbed industrial and commercial sites where there is little likelihood of identifiable artifacts. It is possible, however, that cultural or archaeological resources or human remains may nevertheless be discovered. New installations of air pollution control equipment or infrastructure for zero-emission and low-NOx equipment are unlikely to require substantial soil excavation and would be located on already disturbed and developed industrial land uses. Further, projects implemented as a result of the 2022 AQMP and 2016 AQMP would be subject to project-level review, including review of both geological and paleontological impacts under CEQA, as applicable. Therefore, the Final Program EIRs for the 2022 AQMP and 2016 AQMP concluded that implementation of all of the control measures, including Control Measure MOB-01, would not be expected to destroy a unique paleontological resource or site or unique geological feature, or result directly or indirectly in other significant adverse geology or soils impacts. Therefore, geology and soils impacts were concluded to be less than significant.

Land Use and Planning⁵⁸: Since the 2022 AQMP and 2016 AQMP do not require construction of major new land use developments in any areas within South Coast AQMD's jurisdiction, none of the control measures, including Control Measure MOB-01, were expected to physically divide any established communities within South Coast AQMD's jurisdiction. Potential land use impacts associated with the 2022 AQMP and 2016 AQMP could come from the construction of support systems (e.g., catenary overhead electrical lines or magnetic infrastructure related to operation of zero- and low-NOx transport systems). For purposes of evaluating potential land use impacts, the analysis assumed that no new rail or truck traffic routes would be constructed, but rather that existing truck and rail routes and corridors would be modified. The truck and rail corridors likely to be involved are primarily associated with commercial marine ports in industrial zones within the Southern California area. Since only existing transportation routes would likely be modified (e.g., electric lines installed) and no new transportation routes were anticipated, no land use

⁵⁸ See Section 4.8.6 Land Use Planning of the Final Program EIR for the 2022 AQMP and Section 4.9.5 Land Use Planning of the Final Program EIR for the 2016 AQMP

conflicts, or inconsistencies with any general plan, specific plan, local coastal program, or zoning ordinance were expected. Activities that result from implementing the various 2022 AQMP and 2016 AQMP control measures would be subject to project-level review that would assess consistency with adopted land use regulations, including review of impacts to land use and planning under CEQA, as applicable. Any proposed modification to an existing rail or truck traffic route/corridor would require a separate CEQA evaluation. No land use impacts were identified because any activities undertaken to implement the 2022 AQMP and 2016 AQMP control measures would be expected to comply with, and not interfere with, applicable land use plans, policies, or regulations of an agency with jurisdiction over the project, including, but not limited to the general plans, specific plans, local coastal programs or zoning ordinances.

Mineral Resources⁵⁹: There were no provisions in the 2022 AQMP and 2016 AQMP that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated in a local general plan, specific plan, or other land use plan. The 2022 AQMP and 2016 AQMP provide incentives for the penetration of low-NOx and zero-emission technologies into market which are not expected to result in an increase in the use of mineral resources. The Final Program EIRs for the 2022 AQMP and 2016 AQMP concluded that there would be no impacts on the use of important minerals. Therefore, no new demand for mineral resources was expected to occur and no mineral resources impacts from implementing the 2022 AQMP and 2016 AQMP were anticipated.

Population and Housing⁶⁰: The Final Program EIRs for the 2022 AQMP and 2016 AQMP concluded that implementing the control measures, including Control Measure MOB-01, would not generate any significant effects, either direct or indirect, on the population or population distribution of people living in the South Coast AQMD's jurisdiction as no additional workers were anticipated to be required in order to implement the 2022 AQMP and 2016 AQMP. Consistent with past experience, it was expected that the existing labor pool within the southern California area would accommodate the labor requirements for any modifications requiring construction at affected facilities. Additionally, the 2022 AQMP and 2016 AQMP, including Control Measure MOB-01, contain no provisions that would cause displacement of substantial numbers of people or housing necessitating construction of replacement housing elsewhere. Accordingly, no population and housing impacts were expected from implementing Control Measure MOB-01.

Public Services⁶¹: Fire protection and emergency medical services would be provided to affected facilities and residential developments by local county and city fire departments. Although the implementation of the Control Measure MOB-01 from the 2016 and 2022 AQMPs would require the use of alternative fuels (e.g., hydrogen), the alternative fuels would displace gasoline and diesel fuels and if a fire occurs, the same fire protection and emergency medical services would be needed. As first responders to emergency situations, fire departments are trained to respond to a variety of situations related to hazardous materials. Large industrial facilities (e.g., electric

⁵⁹ See Section 4.8.7 Mineral Resources of the Final Program EIR for the 2022 AQMP and Section 4.9.6 Mineral Resources of the Final Program EIR for the 2016 AQMP

⁶⁰ See Section 4.8.8 Population and Housing of the Final Program EIR for the 2022 AQMP and Section 4.9.7 Population and Housing of the Final Program EIR for the 2016 AQMP

⁶¹ See Section 4.8.9 Public Services of the Final Program EIR for the 2022 AQMP and Section 4.9.8 Public Services of the Final Program EIR for the 2016 AQMP

generating plants and refineries) have on-site fire response personnel and the local fire departments provide assistance to the on-site personnel. Therefore, no increase in calls for fire protection, and emergency medical service would be expected from implementation of the control measures. All activities undertaken as a result of implementing the 2022 AQMP and 2016 AQMP, including Control Measure MOB-01, would be required to comply with fire-related safety features in accordance with the applicable provisions of the adopted California Fire Code, any county or city ordinances, and standards regarding fire prevention and suppression measures related to water improvement plans, fire hydrants, fire access, and water availability. Based on the preceding discussion, implementation of the 2022 AQMP and 2016 AQMP would not adversely affect the ability of local fire protection to provide adequate service. As such, these impacts were concluded to be less than significant. Implementation of the 2022 AQMP and 2016 AQMP would also not result in an increase in calls for police protection. Implementation of the 2022 AQMP and 2016 AQMP are expected to occur at existing facilities or promote transition to cleaner emitting equipment at new developments but would not facilitate the construction of new development. At existing industrial facilities, on-site security is typical and would be expected to continue with the same demand for police department support as is currently needed. Furthermore, implementation of the 2022 AQMP and 2016 AQMP would not induce population growth either directly or indirectly. Therefore, with no increase in local population, there would be no additional demand for new or expanded schools, parks, and libraries and no other adverse population or housing impacts were expected. Implementation of the 2022 AQMP and 2016 AQMP would generate less than significant impacts to public services.

Recreation⁶²: Demand for parks and recreational facilities in an area is usually determined by the area's population. As explained earlier in the Population and Housing section of this Appendix, implementation of the 2022 AQMP and 2016 AQMP does not require or include the development of new homes, which would lead to an increase in population and thereby, the need for additional park and recreation facilities. Therefore, the implementation of the 2022 AQMP and 2016 AQMP, including Control Measure MOB-01, would not increase the use of existing neighborhood and regional parks or other recreational facilities, nor would it require construction of new or expanded parks or recreational facilities. No impacts to park and recreational facilities would occur.

Wildfire⁶³: The analysis in the Final Program EIR for the 2022 AQMP determined that activities that result from implementing the 2022 AQMP, including Control Measure MOB-01, would not block or otherwise interfere with the use of evacuation routes; nor would they interfere with operations of emergency response agencies or with coordination and cooperation between such agencies. Therefore, the analysis concluded that there would be no impacts on emergency activities. Implementation of these control measures were found to: affect existing commercial/industrial facilities; accelerate the replacement of high-emitting mobile sources with low-NOx and zero-emission mobile sources; control indirect sources of emissions; and develop incentives to remove/replace higher emitting equipment. However, since commercial and industrial areas, such as commercial marine ports, are not typically located near wildland or forested areas, the analysis concluded that implementation of these control measures would not be expected to increase the risk of wildland fires. For this reason, the analysis in the Final Program

⁶² See Section 4.8.10 Recreation of the Final Program EIR for the 2022 AQMP and Section 4.9.9 Recreation of the Final Program EIR for the 2016 AQMP

⁶³ See Section 4.8.12 Wildfire of the Final Program EIR for the 2022 AQMP

EIR for the 2022 AQMP concluded that implementation of Control Measure MOB-01 would have no impact to wildfires.

Relative to the analysis of the topic of wildfire in the Final Program EIR for the 2016 AQMP, it is important to note that the environmental topic area of wildfire was added to the Environmental Checklist in the CEQA Guidelines in 2019. Previous to this change in the CEQA Guidelines, the topic of the topic of fire hazards, including fires on wildlands, was analyzed in the biological resources and hazards and hazardous materials sections, as was the case for the Final Program EIR for the 2016 AQMP. Specifically, the Notice of Preparation/Initial Study for the 2016 AQMP, which is an appendix within the Final Program EIR for the 2016 AQMP, concluded that there would be no impact to the wildfire-related environmental checklist questions under the topics of biological resources and the hazards and hazardous materials.

Conclusion: In summary, relative to cumulative impacts, the Final Program EIRs for the 2022 AQMP and 2016 AQMP concluded that implementation of Control Measure MOB-01, when combined with past, present, and reasonably foreseeable activities, would not contribute to cumulative considerable impacts to the following environmental topic areas: agriculture and forestry resources, biological resources, cultural and tribal cultural resources, geology and soils, land use and planning, mineral resources, population and housing, public services, recreation, and wildfire.

The additional measures in the proposed Addendum to the Cooperative Agreement do not change the reasonably foreseeable activities resulting from implementing the 2022 AQMP, 2016 AQMP, and other projects considered in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP, such as the SCAG Connect SoCal Plan and the CARB 2022 State SIP Strategy. Implementation of Control Measure MOB-01 of the 2022 AQMP and 2016 AQMP, upon which the additional measures in the proposed Addendum to Cooperative Agreement rely, was concluded to have no potentially adverse impacts for any of the aforementioned environmental topic areas, and the additional measures in the proposed Addendum to the Cooperative Agreement are also expected to have no new impacts. As such, the implementation of the additional measures in the proposed Addendum to the Cooperative Agreement is not expected to change the previous conclusions reached in the Final Program EIRs for the 2022 AQMP and 2016 AQMP regarding cumulatively considerable impacts for these environmental topic areas. Therefore, as with the original Cooperative Agreement, the additional measures in the proposed Addendum to the Cooperative Agreement would not cause any cumulative impacts to the environmental topic areas of agriculture and forestry resources, biological resources, cultural and tribal cultural resources, geology and soils, land use and planning, mineral resources, population and housing, public services, recreation, and wildfire.

Further, since no cumulatively considerable impacts were identified for these environmental topic areas in the Final Program EIRs for the 2022 AQMP and 2016 AQMP, mitigation measures were not required at that time. Similarly, since implementation of the additional measures in the proposed Addendum to the Cooperative Agreement is not expected to result in cumulatively considerable impacts for these environmental topic areas, no new mitigation measures would be required.

CONCLUSION OF THE CEQA ANALYSIS OF THE ADDITIONAL MEASURES IN THE PROPOSED ADDENDUM TO COOPERATIVE AGREEMENT

As with the development and implementation of charging and fueling infrastructure plans in the original Cooperative Agreement, the additional measures in the proposed Addendum to Cooperative Agreement rely on Control Measures MOB-01 and MOB-15 of the 2022 AQMP, and Control Measure MOB-01 of the 2016 AQMP. Control Measures MOB-01 and MOB-15 of the 2022 AQMP, and Control Measure MOB-01 of the 2016 AQMP were previously analyzed in the Final Program EIRs for the 2022 AQMP and 2016 AQMP. The CEQA analysis of the development and implementation of charging and fueling infrastructure plans in the original Cooperative Agreement concluded that no new or modified physical changes or impacts that were not previously analyzed in the Final Program EIRs for the 2022 AQMP and 2016 AQMP specific to Control Measures MOB-01 and MOB-15 were expected. Since the additional measures in the proposed Addendum to Cooperative Agreement do not introduce new information that would create new or worsen the previously analyzed environmental impacts, the adoption of additional measures is not expected to result in new or modified physical changes or impacts that were not previously analyzed in the Final Program EIRs for the 2022 AQMP and 2016 AQMP specific to Control Measures MOB-01 and MOB-15.

The Final Program EIR for the 2022 AQMP concluded that implementation of the 2022 AQMP would result in potentially significant impacts to the environmental topic areas of air quality and GHG emissions, energy, hazards and hazardous materials, hydrology and water quality, noise, and solid and hazardous waste. Implementation of Control Measure MOB-15 of the 2022 AQMP was concluded not to have potential adverse impacts on any environmental topic area because it was administrative in nature. Implementation of Control Measure MOB-01 would have potentially significant impacts to: 1) air quality from construction because emissions on a peak day could exceed South Coast AQMD's significance thresholds; 2) energy because Basin-wide electricity usage would exceed baseline electricity consumption by more than one percent, natural gas demand is expected to increase in the short-term, and little excess hydrogen capacity is available to meet the increased demand such that additional hydrogen production facilities will be required; 3) hazards and hazardous materials because construction of new natural gas pipelines to service hydrogen production facilities may be a potential torch fire risk to receptors; 4) noise because vibration from construction activities could exceed the 72 vibration decibels (VdB) threshold for structures and sensitive receptors within 200 feet of construction activities if certain types of construction equipment were used; and 5) solid and hazardous waste due to the uncertainty of the future capacity of the landfills within South Coast AQMD's jurisdiction to address waste from construction of infrastructure and early retirement of vehicles and equipment. Implementation of Control Measure MOB-01 would have less than significant impacts to air quality from operation and GHG emissions, and no impact to hydrology and water quality.

For environmental topic areas which were concluded in the Final EIR for the 2022 AQMP to have potentially significant impacts, mitigation measures were adopted. Nonetheless, no environmental topic area identified as having a potentially significant impact in the Final Program EIR for the 2022 AQMP was concluded to be capable of being mitigated to less than significant levels. When combined with the Connect SoCal Plan, the SIP strategies, state policies, and other past, present, and reasonably foreseeable activities, implementation of the 2022 AQMP would result in

significant environmental impacts. No additional feasible mitigation measures to reduce the significant cumulative impacts were identified, and cumulative impacts to the environmental topic areas of air quality and GHG emissions, energy, hazards and hazardous materials, hydrology and water quality, noise, and solid and hazardous waste remained significant and unavoidable.

The Final Program EIR for the 2016 AQMP concluded that implementation of the 2016 AQMP would result in potentially significant impacts to the environmental topic areas of aesthetics, air quality and GHG emissions, energy, hazards and hazardous materials, hydrology and water quality, noise, solid and hazardous waste, and transportation and traffic. Implementation of Control Measure MOB-01 would have potentially significant impacts to: 1) aesthetics due to use of barge-based bonnet technology; 2) air quality from construction due to emissions associated with the development of infrastructure to support alternative-fueled marine port equipment and vehicles; 3) energy because Basin-wide electricity usage would exceed baseline electricity consumption by more than one percent; 4) hazards and hazardous materials due to production of hydrogen; 5) noise and vibration from construction of fueling and electrical infrastructure at or near marine terminals; 6) solid and hazardous waste due to waste generation associated with infrastructure construction activities and generation of waste from battery disposal and turnover of older equipment; and 7) transportation and traffic impacts associated with construction activities due to potential temporary changes in traffic patterns and volumes, as well as deliveries of alternative fuels during operation. Implementation of Control Measure MOB-01 would result in less than significant impacts to the environmental topic areas of air quality from operation and GHG emissions, and hydrology and water quality.

As explained in the “Summary of Environmental Impact Analysis from the Final Program EIRs for the 2022 AQMP and the 2016 AQMP,” mitigation measures were adopted for certain environmental topic areas which had conclusions of potentially significant impacts. Nonetheless, no environmental topic area identified as having a potentially significant impact was capable of being mitigated to less than significant levels. When combined with the other past, present, and reasonably foreseeable activities, in particular the transportation projects projected in the 2016 RTP/SCS, implementation of the 2016 AQMP would result in significant environmental impacts. No additional mitigation measures to reduce the significant cumulative impacts were identified, and cumulative impacts to the environmental topic areas of aesthetics, air quality and GHG emissions, energy, hazards and hazardous materials, hydrology and water quality, noise, solid and hazardous waste, and transportation and traffic remained significant and unavoidable.

The aforementioned impacts analyzed in the Final Program EIR for the 2022 AQMP and the Final Program EIR for the 2016 AQMP are the same or greater than the impacts that would occur if the additional measures in the proposed Addendum to Cooperative Agreement is implemented.

Therefore, the environmental impacts associated with implementing the additional measures in the proposed Addendum to Cooperative Agreement are within the scope of what was previously analyzed in the Final Program EIR for the 2022 AQMP for Control Measures MOB-01 and MOB-15, and Final Program EIR for the 2016 AQMP for Control Measure MOB-01. Thus, no new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration pursuant to CEQA Guidelines Section 15168(c)(2). The additional measures in the proposed Addendum to Cooperative Agreement does not introduce new information which will cause new significant

effects or substantially worsen or make more severe significant effects that were previously analyzed in the Final Program EIRs for the 2022 AQMP and 2016 AQMP. In addition, the additional measures in the proposed Addendum to Cooperative Agreement would not require changes or additions to the adopted mitigation measures or alternatives previously considered in the Final Program EIRs for the 2022 AQMP and 2016 AQMP. Thus, in accordance with CEQA Guidelines Section 15168(c)(2), a subsequent EIR would not be required pursuant to Public Resources Code Section 21166 and CEQA Guidelines Section 15162.

Based on the preceding analysis, pursuant to CEQA Guidelines Section 15168(c)(2), the additional measures in the proposed Addendum to Cooperative Agreement qualify as a later activity within the scope of the 2022 AQMP and 2016 AQMP which were analyzed in the Final Program EIRs for the 2022 AQMP and 2016 AQMP. The mitigation measures developed in the Final Program EIRs for the 2022 AQMP and 2016 AQMP for the previously adopted Control Measures MOB-01 in the 2022 AQMP and 2016 AQMP are incorporated into this Addendum and may be applicable in the event that the Ports: 1) elect to rely on the environmental analyses conducted by South Coast AQMD in the Final Program EIRs for the 2022 AQMP and 2016 AQMP when proposing specific charging and fueling infrastructure projects with future defined actions (e.g., locations, equipment details, and timelines, etc.); and 2) find that the environmental analysis of the future defined actions identifies significant adverse air quality impacts. (CEQA Guidelines Section 15168(c)(3).)

Therefore, the additional measures in the proposed Addendum to Cooperative Agreement are considered a later activity within the scope of the Final Program EIRs for the 2022 AQMP and 2016 AQMP and the Final Program EIRs for the 2022 AQMP and 2016 AQMP adequately describe the later activity for the purposes of CEQA such that no new environmental document will be required.

CEQA ANALYSIS OF THE COST RECOVERY PROVISION

The cost recovery provision in the proposed Addendum to the Cooperative Agreement establishes payments by the Ports to South Coast AQMD in order for South Coast AQMD to recover its reasonable costs associated with administration and management of the CAAP Plus Measure – Regional Off Port Truck Charging and Fueling Infrastructure. Pursuant to the CEQA Guidelines Sections 15002(k) and 15061, the cost recovery provision of the proposed Addendum to the Cooperative Agreement is exempt from CEQA. The cost recovery provision of the proposed Addendum to the Cooperative Agreement is statutorily exempt from CEQA requirements pursuant to CEQA Guidelines Section 15273, because it establishes a funding mechanism for the purpose of meeting operating expenses associated with executing the requirements and terms of the proposed Addendum to the Cooperative the Agreement. A Notice of Exemption has been prepared pursuant to CEQA Guidelines Section 15062. If the proposed Addendum to the Cooperative Agreement is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties, and with the State Clearinghouse of the Governor’s Office of Land Use and Climate Innovation.

CEQA ANALYSIS OF THE CLEAN AIR MITIGATION FUND

The Clean Air Mitigation Fund was established in the original Cooperative Agreement and consists of financial consequences in the event that contractual obligations were not met. As specified in the original Cooperative Agreement, the Ports agreed to pay into the South Coast AQMD-managed Clean Air Mitigation Fund in the event of failure to complete specified actions within their control, and these provisions will continue to apply to the additional measures in the proposed Addendum. Specifically, Attachment A2 – CAAP Plus Measures – Port Emission Reduction Programs, Section H – Enforcement Provisions, directs the Ports to pay into the Clean Air Mitigation Fund for noncompliance with specified requirements in the additional measures.

The Clean Air Mitigation Fund is an existing government funding mechanism that does not involve a commitment to any specific project that could result in a potentially significant physical impact on the environment. In making CEQA determinations for the original Cooperative Agreement, the South Coast AQMD Governing Board found that the Clean Air Mitigation Fund was not considered a “project” within the meaning of CEQA pursuant to CEQA Guidelines Section 15378(b)(4).^{64, 65} Directing further payment for contract defaults associated with the additional measures into the Clean Air Mitigation Fund does not change the prior determination that the creation of the Clean Air Mitigation Fund in the Cooperative Agreement is not considered a project within the meaning of CEQA pursuant to CEQA Guidelines Section 15378(b)(4).

⁶⁴ Agenda Item 30 of the November 7, 2025 of the South Coast AQMD’s Governing Board Meeting at: <https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-nov7-030.pdf>

⁶⁵ December 5, 2025 approval of minutes for the November 7, 2025 South Coast AQMD Governing Board Meeting, <https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-dec5-001.pdf>.

REFERENCES

The 2022 AQMP, along with the December 2022 Final Program EIR for the 2022 AQMP (State Clearinghouse No. 2022050287) and its corresponding Findings, Statement of Overriding Considerations, and Mitigation, Monitoring, and Reporting Plan, and the 2016 AQMP along with the March 2017 Final Program EIR for the 2016 AQMP (State Clearinghouse No. 2016071006) and its corresponding with Findings, Statement of Overriding Considerations, and Mitigation, Monitoring, and Reporting Plan, upon which this analysis of the Agreement relies, are incorporated by reference pursuant to CEQA Guidelines Section 15150 and are available from the South Coast AQMD's website at:

December 2022 Final Program EIR for the 2022 AQMP

Master webpage

<https://www.aqmd.gov/home/research/documents-reports/lead-agency-scaqmd-projects/south-coast-aqmd-projects---year-2022>

December 2022 Final Program EIR for the 2022 AQMP (including Appendices)

<https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-final-peir.pdf>

Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Plan

<https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-attachment1toresolution.pdf>

2022 AQMP

<https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan>

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March 2017 Final Program EIR for the 2016 AQMP

Master webpage

<http://www.aqmd.gov/home/research/documents-reports/lead-agency-scaqmdprojects/scaqmd-projects---year-2017>

March 2017 Final Program EIR for the 2016 AQMP (without Appendices)

<https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf>

Appendices A through C

https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir_appendicesac.pdf

Appendices D through E

https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir_appendicesde.pdf

Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Plan

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2016 AQMP

<https://www.aqmd.gov/home/air-quality/air-quality-management-plans/final-2016-aqmp>

Notice of Determination for 2016 AQMP

<https://www.aqmd.gov/docs/default-source/ceqa/notices/notices-of-decision-or-determination/2022/2022-aqmp-nod.pdf>

The CEQA analysis for the Cooperative Agreement is incorporated by reference pursuant to CEQA Guidelines Section 15150 and is available from the South Coast AQMD's website at:

Cooperative Agreement Between South Coast AQMD and Ports of Long Beach and Los Angeles, Execute Cooperative Agreement Between South Coast AQMD and Ports of Long Beach and Los Angeles (Original Cooperative Agreement), and Approve Supporting Budget Actions Approved on November 2025**Item Number 30 of the Governing Board Meeting Agenda: November 7, 2025**

<https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-nov7-030.pdf>

Record of Approval/Approved Minutes for the November 7, 2025 South Coast AQMD Governing Board Meeting)

<https://www.aqmd.gov/docs/default-source/agendas/governing-board/2025/2025-dec5-001.pdf>

Notice of Determination for Original Cooperative Agreement

https://www.aqmd.gov/docs/default-source/ceqa/notices/notices-of-decision-or-determination/2025/cooperative-agreement-for-ports_nod_flattened-ocr.pdf

INTRODUCTION AND SUMMARY OF THE PROPOSED ADDENDUM TO THE COOPERATIVE AGREEMENT

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2. Clean Marine Fuel Pilot Project, Ports of Los Angeles.
https://portoflosangeles.org/references/2026-news-releases/news_042026_green_corridor_and_C40
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CEQA ANALYSIS OF THE ADDITIONAL MEASURES IN THE PROPOSED ADDENDUM TO THE COOPERATIVE AGREEMENT

Project Background and Approach for CEQA Analysis

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<https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan>
9. South Coast AQMD, Final Program Environmental Impact Report for the 2022 Air Quality Management Plan, December 2022. <https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2022/2022-aqmp-final-peir.pdf>

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ATTACHMENT H



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SUBJECT: NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

PROJECT TITLE: COST RECOVERY PROVISION IN THE PROPOSED ADDENDUM TO THE COOPERATIVE AGREEMENT BETWEEN THE SOUTH COAST AQMD AND THE PORTS OF LONG BEACH AND LOS ANGELES

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, the South Coast Air Quality Management District (South Coast AQMD), as Lead Agency, has prepared a Notice of Exemption pursuant to CEQA Guidelines Section 15062 – Notice of Exemption for the project identified above.

If the proposed project is approved, the Notice of Exemption will be filed for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino Counties. The Notice of Exemption will also be electronically filed with the State Clearinghouse of the Governor's Office of Land Use and Climate Innovation for posting on their CEQAnet Web Portal which may be accessed via the following weblink: <https://ceqanet.opr.ca.gov/search/recent>. In addition, the Notice of Exemption will be electronically posted on the South Coast AQMD's webpage which can be accessed via the following weblink: <https://www.aqmd.gov/nav/about/public-notices/ceqa-notices/notices-of-exemption/noe---year-2026>.

**NOTICE OF EXEMPTION FROM THE
CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

To: County Clerks for the Counties of Los Angeles, Orange, Riverside, and San Bernardino; and Governor's Office of Land Use and Climate Innovation – State Clearinghouse	From: South Coast Air Quality Management District (South Coast AQMD) 21865 Copley Drive Diamond Bar, CA 91765
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Project Title: Cost Recovery Provision in the Proposed Addendum to the Cooperative Agreement Between the South Coast AQMD and the Ports of Long Beach and Los Angeles

Project Location: The entities subject to the cost recovery provision in the Proposed Addendum to the Cooperative Agreement are the Ports of Long Beach and Los Angeles which are both located within Los Angeles County and within the South Coast AQMD's jurisdiction, which includes the four-county South Coast Air Basin (all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties), and the Riverside County portion of the Salton Sea Air Basin and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project: The proposed Addendum to the Cooperative Agreement between South Coast AQMD and the Ports of Long Beach and Los Angeles (Addendum to the Cooperative Agreement) contains a cost recovery provision which requires each Port to allocate \$20 million (totaling \$40 million) to South Coast AQMD for regional off-port zero-emission truck charging and fueling infrastructure projects that will support off-port operations of zero-emission drayage trucks registered in the Ports Drayage Truck Registry. South Coast AQMD will be responsible for managing and distributing funds, as well as monitoring and reporting on the implementation of selected projects. The cost recovery provision also requires South Coast AQMD and each Port to enter into a memorandum of understanding (MOU) that includes the following elements: recitals, project selection requirements, process for uncommitted funds, reporting requirements, public process, and MOU term. South Coast AQMD will recover reasonable fund administration and project management costs through an administrative fee that will not exceed 10 percent of total project cost. The cost recovery provision in the proposed Addendum to the Cooperative Agreement enables South Coast AQMD to meet operating expenses while executing the requirements and terms of the MOUs reached with each Port.

Public Agency Approving Project:
South Coast Air Quality Management District

Agency Carrying Out Project:
South Coast Air Quality Management District

Exempt Status:

CEQA Guidelines Section 15273 – Rates, Tolls, Fares, and Charges

Reasons why project is exempt: 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 cost recovery provision in the proposed Addendum to the Cooperative Agreement is statutorily exempt from CEQA requirements pursuant to CEQA Guidelines Section 15273 – Rates, Tolls, Fares, and Charges, because it requires each Port to allocate funding to South Coast AQMD for the purpose of fund administration, project management costs and meeting operating expenses associated with executing the requirements and terms of the proposed Addendum to the Cooperative Agreement.

NOTICE OF EXEMPTION FROM CEQA (concluded)

Date When Project Will Be Considered for Approval (subject to change):

South Coast AQMD Governing Board Public Hearing: August 7, 2026

CEQA Contact Person:

Farzaneh Khalaj, Ph.D.

Phone Number:

(909) 396-3022

Email:

fkhalaj@aqmd.gov

Cooperative Agreement Contact Person:

Melissa Gamoning

Phone Number:

(909) 396-3115

Email:

mgamoning@aqmd.gov

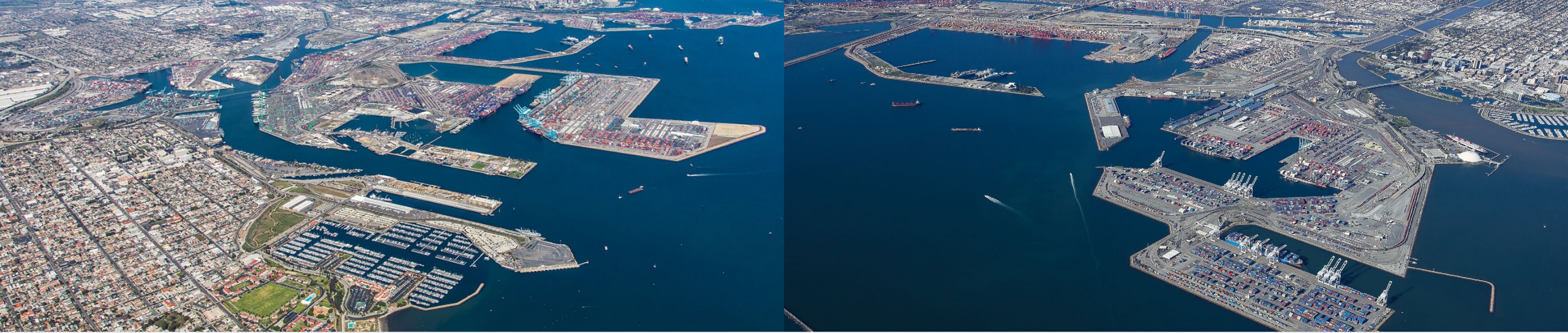
Date Received for Filing: _____

Signature: (Signed and Dated Upon Board Approval)

Kevin Ni

Program Supervisor, CEQA

Planning, Rule Development, and Implementation



Proposed Addendum to Cooperative Agreement with the Ports of Long Beach and Los Angeles

Attachment I

**BOARD MEETING
August 7, 2026**

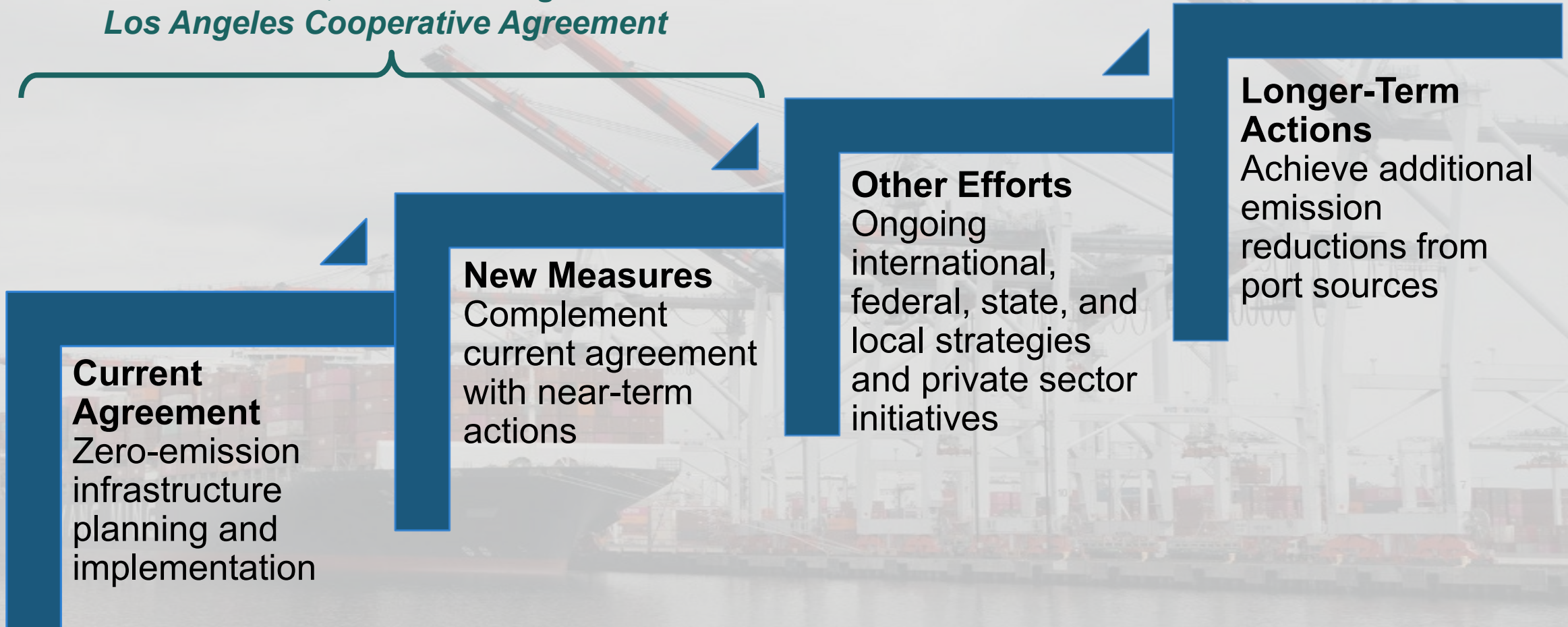
Background

- Ports Cooperative Agreement signed and executed on December 17, 2025
 - Between South Coast AQMD and Ports of Long Beach and Los Angeles
 - Focused on zero-emission (ZE) on-port infrastructure planning and implementation
 - *For all 5 categories of port sources*
 - *3 planning phases, due between 2027-2029*
 - 5-year term
- Parties agreed to continue to negotiate on additional measures to incorporate into the Cooperative Agreement

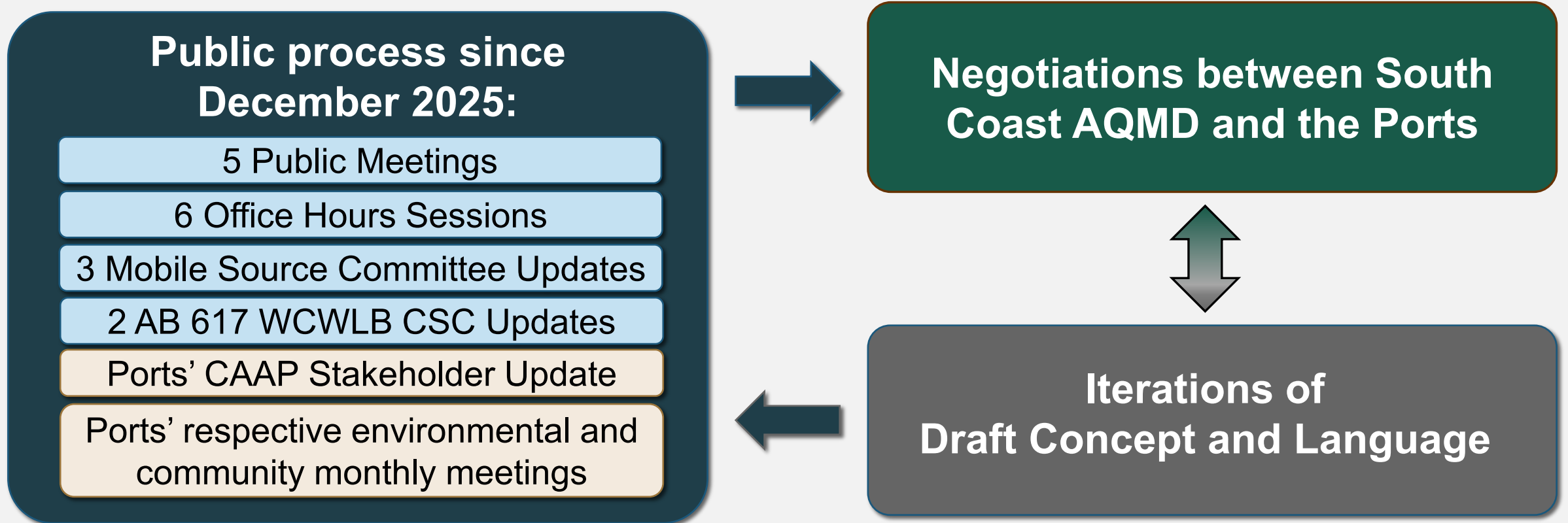


Incremental Approach to Reducing Port Emissions

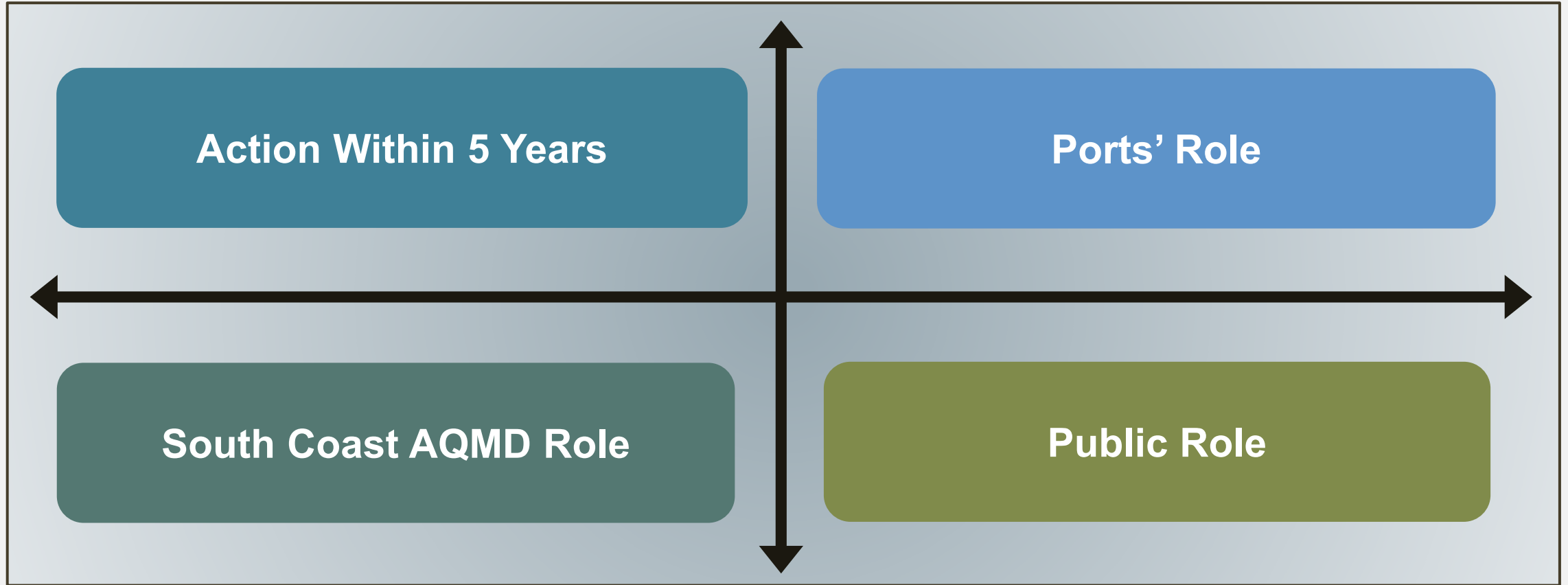
South Coast AQMD, Ports of Long Beach and Los Angeles Cooperative Agreement



Development of Additional Measures



Focus for Developing Additional Measures



Concurrently pursuing other efforts that do not fit within this framework

Overview of Proposed Addendum

Preamble

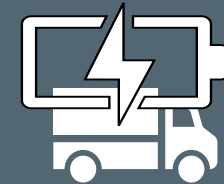
- Specifies additions to agreement
- Highlights future collaboration opportunities outside of agreement

Additional Measures

2 Source-Specific
Incentive Measures



1 Regional
Infrastructure
Measure



Ports' Commitments Outside of Cooperative Agreement

Clean Marine Fuels
Assessment



Clean Marine Fuels
Pilot Project



Study of Vessel Emissions
at Low Speeds



Clean Truck Fund Rate
Spending Plan



ZE Cargo Handling
Equipment Deployment
Projection



South Coast AQMD and the Ports will continue to work collaboratively on additional programs and activities outside of Cooperative Agreement to address Ports' emissions

Source-Specific Incentive Measures

Enhanced Clean Ship Incentive Program



Ports will develop and implement an incentive program for clean ship calls to San Pedro Bay Ports

South Coast AQMD to monitor and enforce program development, reporting, and evaluation processes

Zero-Emission Truck Utilization Incentive



Ports will develop and implement an incentive program for use of ZE drayage trucks

Key Elements of Incentive Measures



Overview and Responsibilities

- Measure description
- Roles for each party



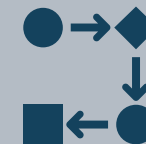
Transparency in Implementation

- Tracking metrics
- Public reporting



Requirements for Measure Implementation

- Steps, timeline, and policy considerations
- Public review process



Potential Course Correction

- Time extension
- Program evaluation
- Enforcement provisions

Regional Infrastructure Measure



Accelerate development of off-port ZE infrastructure supporting regional operation of port drayage trucks

- *South Coast AQMD to administer \$40 million provided by Ports*
- *Administrative details to be specified in subsequent MOUs*
- *Ports responsible for complying with Tidelands Trust for funded projects*
- *South Coast AQMD to recover reasonable costs for fund and project management*

Ports' Public Process to Inform Their Policymaking



Release multiple drafts of plans/programs



Comment period and public workshop



Ports respond to received comments



Comments and responses presented to Port's Boards

Ports' Initial Process Goes Beyond Requirements

- First public meetings in June/July 2026
- Next meetings in August/September 2026

South Coast AQMD's Public Process Focuses on Status Updates

- Semiannual updates to Mobile Source Committee
 - Includes reports on potential emissions benefits for Port-approved plans/programs
- Annually to full Board, starting by April 2028
- *Recommendation to Board on next steps before Agreement ends in December 2030*

Key Remaining Issues

Concern that addendum does not include emission reduction targets

Response

- Infrastructure planning critical first step before identifying emission reductions and equipment deployment strategies

Concern about South Coast AQMD cost recovery in regional infrastructure measure

Response

- Real resource impact across South Coast AQMD divisions to administer and manage projects and contracts
- Exact cost to be determined in subsequent billing, not to exceed 10% project cost

Concern that measures do not address all port sources or on-port infrastructure

Response

- Many concurrent efforts outside of Cooperative Agreement that don't fit within framework of Addendum
 - *Example: Hundreds of millions in grant funding awarded to ZE on-port switcher locomotives, cargo-handling equipment, harbor craft, and on-port infrastructure*

Staff Recommendations

Adopt the Resolution:

- Make the following CEQA determinations:
 - Additional measures in the Addendum to the Cooperative Agreement qualify as a later activity within the scope of the 2022 and 2016 AQMP Final Program EIRs – no new CEQA document required
 - Cost recovery provision is exempt from CEQA
 - No change to prior determination that the creation of Clean Air Mitigation Fund in the Cooperative Agreement is not a project within the meaning of CEQA
- Authorize Executive Officer to execute the Addendum to the Cooperative Agreement