

**MEMORANDUM OF UNDERSTANDING BETWEEN AND AMONG
THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT,
THE CITY OF LONG BEACH AND THE CITY OF LOS ANGELES
REGARDING THE SAN PEDRO BAY PORTS' 2017 CLEAN AIR ACTION PLAN UPDATE**

This Memorandum of Understanding (MOU) is entered into by the South Coast Air Quality Management District (South Coast AQMD), the City of Long Beach, acting by and through the Long Beach Board of Harbor Commissioners (Long Beach), and the City of Los Angeles, acting by and through the Los Angeles Board of Harbor Commissioners (Los Angeles). Long Beach and Los Angeles shall be referred to collectively herein as the Cities. The Cities and South Coast AQMD shall be referred to collectively as Parties (each a Party) to this MOU.

I. RECITALS

- A. Air Regulatory Agencies. Air pollution remains a significant public health concern in many parts of California, and specifically in the South Coast Air Basin (Basin). The South Coast AQMD, California Air Resources Board (CARB), and the United States Environmental Protection Agency (USEPA) are the regional, state, and federal regulatory agencies, respectively, with jurisdiction over air quality in the Basin. South Coast AQMD and CARB have developed and approved the 2016 Air Quality Management Plan (2016 AQMP) for the Basin and USEPA has incorporated the AQMP into the California State Implementation Plan (SIP).
- B. South Coast AQMD. The South Coast AQMD is the regional air pollution control agency primarily responsible for reducing air pollution in the Basin, which consists of the County of Orange, and the non-desert portions of the Counties of Los Angeles, Riverside, and San Bernardino. The Basin includes ~~the San Pedro Bay Ports (Ports)~~ which include the Port of Los Angeles and the Port of Long Beach, collectively referred to as the "San Pedro Bay Ports" or "Ports".
- C. Need for Emission Reductions. The Basin is classified as an extreme non-attainment area for the 1997 and 2008 8-hour ozone national ambient air quality standards (NAAQS) with statutory deadlines to reach attainment by 2023 and 2031~~2~~, respectively. Despite significant air quality improvements achieved over the last several decades, to meet these standards, emissions of oxides of nitrogen (NOx) have to be reduced by 45% in 2023 and 55% in 2031 as outlined in the 2016AQMP. The 2016 AQMP includes Control Measure MOB-01 (Emission Reductions at Commercial Marine Ports) with the goal of achieving emission reductions from marine ports through implementation of CAAP strategies.
- D. Cities. The San Pedro Bay Ports are comprised of two adjacent ports: the Port of Long Beach owned by Long Beach and the Port of Los Angeles owned by Los Angeles. The Cities independently manage the Ports as separate and distinct legal and commercial entities under statutory grants of tidelands from the California state legislature and are under legal mandate to use Port assets and funds per

statutory requirements, including promoting maritime commerce, navigation, fishery, and water-dependent recreation.

- E. Emissions from maritime industry-related mobile sources operating at the Ports. The maritime industry-related mobile sources operating at the Ports represent a significant source of NOx emissions in the Basin because of their use of drayage trucks, cargo handling equipment, ocean-going vessels, harbor craft, and rail locomotives. These operations at the Ports accounted for 9.3% of total NOx emissions in the Basin based on the 2018-2019 emissions inventory reports by the Cities and their contribution to the basin-wide emissions is expected to increase in future years based on the latest cargo growth forecasts. Because of the large contribution from the maritime industry-related mobile sources to the Basin's emissions and regional air quality, additional NOx emission reductions from these sources are critical for demonstrating attainment of the 80 ppb, 75 ppb, and 70 parts per billion ozone standards with deadlines in 2023, ~~and 2031, and 2037.~~
- F. San Pedro Bay Ports Clean Air Action Plan
1. In 2006, the Cities approved the San Pedro Bay Ports Clean Air Action Plan (CAAP), a comprehensive strategy for dramatically reducing air pollution emissions from cargo movement (ships, heavy-duty trucks, cargo handling equipment, harbor craft and rail) in and around the Ports. The Ports updated the CAAP in 2010 with new strategies and emission-reduction targets including health risk reduction.
 2. The CAAP has been very successful at facilitating emission reductions from the maritime industry-related mobile sources. Combined emissions associated with these sources at the Ports achieved an 87% reduction in diesel particulate matter (DPM), 58% reduction in nitrogen oxides (NOx) and 97% reduction in sulfur oxides (SOx) between 2005 and 2018. While these reductions are impressive and laudable, the Cities and South Coast AQMD agree that more effort is needed to continue to reduce emissions further.
 3. In November 2017, the Cities approved an update to the CAAP (2017 CAAP Update), with 14 strategies including Clean Vehicles and Equipment Technology and Fuels, Freight Infrastructure Investment and Planning, Freight Efficiency, and Energy Resource Planning. The 2017 CAAP Update was guided by California's Sustainable Freight Action Plan and its zero-emissions and freight efficiency targets, as well as new greenhouse gas reduction targets set by the State of California. The 2017 CAAP Update did not predict the emission benefits associated with implementation of CAAP strategies in the Basin but included initial planning estimates of emission benefits for some of the CAAP strategies for drayage trucks and cargo handling equipment. South Coast AQMD and the Cities agree that the

2017 CAAP Update and this MOU are voluntary and not regulatory in nature.

G. Purpose of MOU

1. The purpose of this MOU is to set forth how the Parties, consistent with their respective legal authorities, intend to coordinate and cooperate to further South Coast AQMD's efforts to quantify the emission reduction benefits in the Basin anticipated to occur through the implementation of strategies and goals developed by the Cities under the 2017 CAAP Update.
2. The MOU establishes metrics for quantification of emission benefits or specific commitments associated with implementation of CAAP strategies as set forth in the attached schedules 1 through 5 for each emissions source category addressed by the 2017 CAAP Update, including heavy-duty trucks (HDT), cargo handling equipment (CHE), ocean-going vessels (OGV), harbor craft (HC) and rail locomotives (Rail), consistent with the 2023 and 2031 dates for attainment of the ozone standards.
3. The emission reduction benefits for CAAP strategies will be credited into the SIP to the extent that they meet USEPA's integrity elements (i.e., quantifiable, surplus, permanent, and enforceable) and the SIP submittal of this MOU includes an enforceable commitment by South Coast AQMD to USEPA, a demonstration of funding and legal authority, technical analysis, procedures for public disclosure of information, and provisions to measures and track programmatic results. Additional emission reductions from actions in this MOU that could be included in the SIP may be obtained outside of the MOU submittal into the SIP.
4. The Parties specifically disavow any desire or intention to create any third-party beneficiary under this MOU, and specifically declare that no person or entity other than the parties shall have any remedy or right of enforcement. [PLACEHOLDER FOR ADDITIONAL DISCUSSION]

H. MOU Public Process

1. Following the adoption of the 2016 AQMP, South Coast AQMD staff held a series of public working group meetings to solicit comments on implementing Control Measure MOB-01 for marine ports. Based on input received during the public process, South Coast AQMD staff developed a recommendation for the South Coast AQMD's Governing Board's consideration for the development of a Marine Ports Memorandum of Understanding (MOU) with the Cities, based on implementation of CAAP measures by the Cities, and exploration of new joint incentive strategies for ocean-going vessels subject to Cities' jurisdiction and discretionary decisions. In the event that the MOU approach with the Ports is not

successful, South Coast AQMD staff also recommended seeking direction from the South Coast AQMD Governing Board regarding the pursuit of a regulatory approach that could potentially apply to port terminal operators for reducing emissions from maritime industry-related mobile sources operating at the Ports.

2. In May 2018, South Coast AQMD Governing Board approved staff's recommendation and directed staff to pursue an MOU approach with the Cities for implementing 2016 AQMP Control Measure MOB-01.
3. South Coast AQMD staff has established a Technical Working Group (TWG), comprised of representatives from South Coast AQMD, CARB, USEPA, Cities, Coalition for Clean Air, Sierra Club, Pacific Merchant Shipping Association, and California Trucking Association, to quantify the emission reduction benefits associated with implementation of CAAP measures. The purpose of the TWG is to: 1) develop calculation methodologies for a baseline emissions forecast for port-related mobile sources and for projected emissions associated with implementation of CAAP strategies in 2023 ~~(and 2031 depending on data availability)~~; 2) provide estimates of baseline emissions forecasts and projected emissions in 2023 ~~(and 2031 depending on data availability)~~ due to implementation of CAAP measures; 3) quantify corresponding SIP creditable emission reductions based on the 2016 AQMP emissions inventory; and 4) monitor implementation of CAAP measures and actual emissions benefits achieved based on the annual reports submitted by the Cities as specified in Schedules 1 to 5.
4. South Coast AQMD staff has also established an MOU Working Group (WG), consisting of representatives from South Coast AQMD, Cities, CARB, USEPA, environmental organizations, labor, maritime industry-related mobile sources, other stakeholders, and the public to solicit comments on the MOU development as well as monitor the implementation of this MOU. In addition, South Coast AQMD may utilize other well-established routes, including the South Coast AQMD website, Subscribers lists, and Governing Board and Committee meetings, for disseminating information concerning the status of MOU implementation.
5. The MOU has been developed through the public process outlined above for the South Coast AQMD Governing Board's and the Cities' Harbor Commissions' consideration.

II. NOW, THEREFORE, in consideration of the mutual interests and benefits of all Parties to be derived from emissions reductions or specific commitments associated with the implementation of the strategies in the voluntary 2017 CAAP Update specified in Schedules 1 to 5 of this MOU, the Parties hereto agree as follows:

A. CITIES' RESPONSIBILITIES

The Cities agree to take the following actions:

1. CAAP Implementation. Implement 2017 CAAP Update programs as specified in Schedules 1 to 5 attached to this MOU in accordance with the authority and direction set forth by their Boards.
2. Contingency Measures. [Placeholder to be develop contingency measures or actions to be implemented by the Ports in the event that the Ports commitments and targets specified in Schedules 1 to 5 are not achieved.]
- ~~2.3.~~ CAAP Studies and Other Information. Provide ~~information~~ final documents to South Coast AQMD that are published by the Cities ~~is developed~~ as part of the implementation of the 2017 CAAP Update (~~i.e.e.g.~~, Feasibility Studies, Clean Truck Program Rate Study). Any material changes to existing studies which the Cities have agreed to provide to South Coast AQMD will require notification to the South Coast AQMD prior to implementation of the change.
- ~~3.4.~~ Monitoring and Reporting. Monitor the implementation of the 2017 CAAP Update programs specified in Schedules 1 to 5 attached to this MOU and provide annual reporting to South Coast AQMD as outlined in Schedules 1 to 5.
- ~~4.5.~~ Cargo Forecast. Provide the latest published San Pedro Bay Ports Cargo Forecast report to South Coast AQMD as part of the Cities' annual reporting to South Coast AQMD.
- ~~5.6.~~ Technical Working Group and Working Group. Participate as a member of the MOU TWG (Section II.C. below) and the MOU public process and WG (Section II.D. below).
- ~~6.7.~~ Incentives. Provide incentives for vessels, harbor craft, locomotives, cargo handling equipment, and cleaner trucks as provided in the 2017 CAAP Update and specified in Schedules 1 to 5 (e.g., vessel speed reduction, Green Ship Incentive, exemptions from Truck Rate) and approved by the Cities' Ports' respective Boards.
- ~~7.8.~~ Funding. Support grant funding efforts that may provide funding for the 2017 CAAP Update measures, at the Cities' discretion.

B. South Coast AQMD'S RESPONSIBILITIES

South Coast AQMD agrees to take the following actions:

1. Technical Working Group. Establish and lead the TWG (Section I.H.3. above).
2. MOU Working Group. Establish and lead the MOU public process and MOU WG (Section I.H.4 above).

3. Technical Analyses for SIP Credit and actual emission reductions from 2017 CAAP Update measures. South Coast AQMD will provide the necessary documentation and technical analysis with respect to the calculation of the emission reductions benefits attributable to 2017 CAAP Update measures specified in Schedules 1 to ~~3~~⁵ for determining SIP credit as well as the actual emission reductions achieved based on annual reports provided by the Cities. This includes, but is not limited to, an analysis of the AQMP/SIP baseline for affected maritime industry-related mobile sources operating at the Ports, emission reductions achieved through 2017 CAAP Update measures, and an estimation of emissions reductions benefits and corresponding SIP credit as well as the actual emission reductions achieved based on implementation of these measures. Factors to be considered for purposes of calculating the emission reductions benefits attributable to the 2017 CAAP Update measures shall include but not be limited to: cargo growth forecasts from the ~~Ports~~^{Cities}, implementation of 2017 CAAP Update measures as specified in Schedules 1 to 5, and the availability of funding for relevant incentives programs (if applicable). The TWG established under Section II.C. below, shall actively assist South Coast AQMD to develop such analyses. South Coast AQMD will make final determinations, based on the work and conclusions of the TWG, on baseline emissions and emissions reductions to be used for the 2016 AQMP goals and obligations and for determining SIP credit eligibility for emissions reductions achieved through implementation of 2017 CAAP Update measures specified in Schedules 1 to 5.
4. Federal Enforceability. To the extent necessary to obtain SIP credit, federally enforceable commitments will be provided by South Coast AQMD in a separate SIP update document to be submitted to the USEPA after being approved by the South Coast AQMD and the CARB Boards. South Coast AQMD will monitor, assess, and report on the actual emission reductions benefits from 2017 CAAP Update measures to the USEPA.
5. Responsibility for Emission Reduction Shortfall. South Coast AQMD shall be solely responsible to make up any emissions reduction shortfall that may occur in the event that its projected 2017 CAAP Update emissions reduction benefits exceed actual emissions reduction benefits resulting from implementation of the 2017 CAAP Update measures as specified in Schedules 1 to 5 ~~to 3~~, and contingency measures identified in paragraph II.A.2. (as necessary). South Coast AQMD will commit to adopt and submit substitute measures to USEPA to remedy any potential emission reduction shortfall associated with the implementation of 2017 CAAP Update measures specified in Schedules 1 to 5, if the MOU measures, including contingency measures, are implemented by the Cities. ~~to 3. The Cities shall have no obligation(s) and/or requirement(s) to implement any substitute measures to remedy any potential emissions reduction shortfall associated~~

~~with implementation of the 2017 CAAP Update measures specified in Schedules 1 to 3, unless otherwise mutually agreed on by both parties. [NEED FURTHER DISCUSSION] Notwithstanding the above,~~ Cities and South Coast AQMD agree that, in the event South Coast AQMD's estimated 2017 CAAP Update emissions reduction benefits exceed actual emissions reduction benefits resulting from implementation of the 2017 CAAP Update measures specified in Schedules 1 to 5, the Cities and South Coast AQMD, through the MOU WG, will work together to consider potential new or enhanced programs or better efforts to quantify existing programs, to help South Coast AQMD to meet any shortfalls, subject to consideration and approval by the Boards, ~~subject to consideration and approval by the Boards.~~

6. Funding. Support grant funding efforts with potential sources that may provide funding for the 2017 CAAP Update measures, including South Coast AQMD's own incentive programs, at its Governing Board's discretion.
7. Monitoring. The South Coast AQMD will monitor and assess the implementation of 2017 CAAP Update measures through the TWG and MOU WG process based on the annual reports provided by the Cities as outlined in Schedules 1 through 5.
8. Information Sharing. The South Coast AQMD will provide the means for ensuring that emission reduction data and other pertinent information related to the implementation of the 2017 CAAP Update measures are fully accessible to the public and the USEPA.

C. MOU SCHEDULES

The 2017 CAAP Update measures identified in the following schedules are attached to and incorporated as part of this MOU:

1. MOU SCHEDULE No. 1 - DRAYAGE TRUCKS
2. MOU SCHEDULE No. 2 - CARGO HANDLING EQUIPMENT
3. MOU SCHEDULE No. 3 - OCEAN GOING VESSELS
4. MOU SCHEDULE No. 4 - HARBOR CRAFT
5. MOU SCHEDULE No. 5 - RAIL LOCOMOTIVES

Each Schedule focuses on a 2017 CAAP Update measure equipment category and time frames that aligned with the 2016 AQMP emission reduction target dates (e.g., 2023, 2031), and includes technical details pertinent to the equipment category such as:

- Metrics or performance targets
- Schedule for program implementation
- Applicable studies (rate study, feasibility study)
- Annual reporting by the Ports to South Coast AQMD

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

D. AUTHORITY OF CITIES

South Coast AQMD acknowledges the fiduciary duty and authority of the Boards of Harbor Commissioners to make policy and fiscal decisions for the Cities in implementing the strategies identified in the voluntary 2017 CAAP Update and this MOU, including without limitation, all spending decisions for incentives or otherwise. [Placeholder to make possible changes to this section or include additional clarifications.]

- E. TERM OF MOU. This MOU shall be in full force and in effect when signed by all parties following their respective required authorization processes. The initial term of this MOU shall expire on December 31, 2035 unless terminated earlier pursuant to Section II.G, below. Prior to expiration of this MOU, all Parties agree to meet to evaluate the need for continuing participation. If all Parties agree that continuing participation is desirable, they shall negotiate for their respective Boards' approval, a written extension of the term of this MOU and any applicable additional MOU Schedules.
- F. WITHDRAWAL AND EARLY TERMINATION. If any Party to this MOU determines that it wishes to no longer be a party to this MOU, then the Party shall provide notice to the other Parties at least ninety (90) days in advance of the specified date of termination of the MOU. The Parties commit to work together to resolve any issues and attempt to negotiate an updated MOU at least thirty (30) days in advance of the specified date of termination of the MOU. If the Parties are unable to reach agreement, the MOU shall terminate on the date specified in the notification.
- G. ENFORCEABILITY. The Parties commit to enforce the provisions under their respective commitments specified in the MOU. In the event that any party fails to enforce its commitment(s) or anticipates an inability to meet its commitment(s), the Party shall provide notice to the other Parties within ~~twenty-sixty~~ (60) days of such determination and seek to negotiate a mutually agreeable solution within ninety (90) days of the date of the Notice. The Parties shall continue to comply with all other commitments under this MOU during the negotiations. Nothing contained in this paragraph is intended to limit any rights or remedies that the parties may have under law. The Parties shall attempt to resolve any controversy that may arise out of or relating to this MOU. If a controversy or claim should arise that cannot be resolved informally by the respective staffs, executive level representatives of the Parties will meet at least once in person to attempt to resolve the matter. The representatives will make every effort to meet as soon as reasonably possible at a mutually agreed time and place.

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

South Coast AQMD:

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

CITY OF LONG BEACH:

Port of Long Beach
415 W. Ocean Blvd.
Long Beach, CA 90802
Attn: Director of Environmental Planning

CITY OF LOS ANGELES:

Los Angeles Harbor Department
425 S. Palos Verdes St.
San Pedro, CA 90731
Attn: Director of Environmental Management

- I. AVAILABLE FUNDING. Each Party shall be responsible for its respective costs associated with this MOU and acknowledges that the commitments contained herein by any other Party are subject to the availability of appropriated funds. [NEED FURTHER DISCUSSION] No Party will submit a claim for compensation to any other Party, or otherwise seek reimbursement of costs from any other Party, for activities carried out pursuant to this MOU.
- J. FUTURE AGREEMENTS. This MOU does not restrict any future agreements between the Parties with respect to the subject matter stated herein or any other subject matter.
- K. JOINT WORK PRODUCT. This MOU shall not be construed against the party preparing the same, shall be construed without regard to the identity of the

person who drafted such and shall be construed as if all parties had jointly prepared this MOU and it shall be deemed their joint work product.

- L. ENTIRE UNDERSTANDING. This MOU, including all attachments, constitutes the entire understanding between the parties and supersedes all other agreements between the parties, oral or written, with respect to the subject matter herein. This MOU shall not be amended except in writing signed by the parties which expressly refers to this MOU.
- M. VENUE. This MOU shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this MOU shall be Los Angeles County, California, USA.
- N. SEVERABILITY. If a court of competent jurisdiction holds any provision of this MOU to be illegal, unenforceable, or invalid in whole or in part for any reason, the validity and enforceability of the remaining provisions, or portions of those provisions, will not be affected.
- O. ATTORNEY'S FEES. In the event any action is filed in connection with the enforcement or interpretation of this MOU, each party shall bear its own attorneys' fees and costs.
- P. COUNTERPARTS. The signature pages of this MOU are being executed in counterparts by authorized signatories of the Parties following the approvals by their respective public agency governing boards. When all Parties have signed, all executed counterparts taken together shall constitute one and the same instrument.
- Q. AUTHORIZED SIGNATURES. Each signatory of this MOU represents that s/he is authorized to execute on behalf of the Party for which s/he signs. Each Party represents that it has legal authority to enter into this MOU and to perform all obligations under this MOU.

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

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By _____

Name: Wayne Nastri

Title: Executive Officer

Date: _____, 20__

Attest _____

Name:

Title:

APPROVED AS TO FORM:

Date: _____, 20__

BAYRON T. GILCHRIST,
General Counsel

By _____

Name:

Title:

DRAFT

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

**CITY OF LONG BEACH,
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

By _____

Name: Mario Cordero
Title: Executive Director,
Harbor Department

Date: _____, 20__

Attest

Name: Richard Jordan
Title: Chief of Staff to the Board

APPROVED AS TO FORM:

Date: _____, 20__

MICHAEL N. FEUER
Los Angeles City Attorney
Janna B. Sidley, General Counsel

APPROVED AS TO FORM:

Date: _____, 20__

CHARLES PARKIN
Long Beach City Attorney

By _____

Joy M. Crose
Assistant General Counsel

By _____

Dawn McIntosh,
Deputy City Attorney

MOU SCHEDULE NO. 1 - DRAYAGE TRUCKS

This MOU Schedule No. 1 is attached to and a part of the MOU between the Cities and South Coast AQMD.

- I. PROGRAM DESCRIPTION - Implement the 2017 CAAP Update Clean Trucks Program.
- II. PROGRAM TIMEFRAME- Upon execution through 2035.
- III. CITIES OBLIGATIONS - The Cities shall make the following commitments in reference to the 2017 CAAP Update Clean Trucks Program:
 - A. Commit to adopt, within their authority and jurisdiction, a Clean Trucks Program consistent with the goals of the 2017 CAAP Update, -that would accelerate the deployment of near-zero-emissions (NZ) and zero-emission (ZE) heavy duty trucks operating at San Pedro Bay Ports in 2023 and later.
 - B. Beginning in October 2018, new trucks entering the Ports' Drayage Truck Registry (PDTR) must have a 2014 engine model year (MY) or newer. Existing trucks already registered in the PDTR can continue to operate.
 - C. Beginning in January 2023, new trucks entering the Ports' Drayage Truck Registry (PDTR) must be NZ or ZE. NZ trucks must be certified to CARB's optional NOx emission standard of 0.02 g/bhp-hr through 2026 and 0.01 g/bhp-hr starting in 2027.
 - B.D. Beginning in January 2028, new trucks entering the Ports' Drayage Truck Registry (PDTR) must be ZE.
 - ~~C.E.~~ Conduct a feasibility assessment for NZ and ZE heavy duty truck technologies including an evaluation of technical viability, commercial availability, operational feasibility, infrastructure availability, and key economic considerations, by June 2019. The feasibility assessment was completed in April 2019. Updates will be made a minimum of triennially through 2035.
 - ~~D.F.~~ Pursue a pilot demonstration project to evaluate a larger-scale deployment of ZE trucks. ~~{PLACEHOLDER for additional details}.~~
 - ~~E.G.~~ By February 2020, conduct an economic study for the Clean Truck Program rate as stated in the 2017 CAAP Update: to evaluate the capacity of the maritime industry operating at the Ports to absorb the new clean truck rate in light of existing costs and other fees, including an assessment of how the rate will affect the Ports' economic competitiveness, growth, and the potential for cargo diversion. The study will also project the amount of the revenue that will be collected at each of the proposed rates taking into account estimated turnover to NZ and ZE trucks. The study will also evaluate, qualitatively, how revenues collected from the rate, public funding, and/or private financing mechanisms, could mitigate potential impacts associated with the proposed rate.

- ~~F.H.~~ Establish a mechanism by ~~summer 2020-fall 2021~~ for collection of the Clean Truck Program rate based on individual truck calls. Funds collected through the Clean Truck Program rate shall be used by the Ports to cover program administrative expenses, and to offer additional incentives for deployment of NZ and ZE drayage trucks and infrastructure (fueling and charging stations).
- I. Adopt a resolution setting the amount of the Clean Truck Program rate, within their jurisdiction and authority, by ~~February-March 2020~~. The rate would apply to all heavy-duty trucks entering the Ports' terminals, with amounts of exemptions or discounts for trucks that are certified to meet the NZ or ZE standards.
- i. The Clean Truck Fund Rate shall be \$10 per loaded container truck call, as adopted by the Los Angeles Board of Harbor Commissioners and by the Long Beach Board of Harbor Commissioners on March 9, 2020.
 - ii. In the event that the Ports' Boards of Harbor Commissioners adopt a lower Clean Truck Fund Rate or eliminate this rate, the Ports agree to provide advance notice and work with South Coast AQMD, CARB and other stakeholders through the MOU Working Group to evaluate the potential impacts on the revenues and emission reductions, and commit to identifying and implementing additional measures to remedy any potential emission reduction shortfall as early as practicable.
- J. By fall of 2021, following CARB's adoption of an engine manufacturing standard and certification process for NZ and ZE for heavy-duty trucks, adopt and implement a Tariff to collect the Clean Truck Program fund rate from heavy-duty trucks entering the Ports' terminals beginning January 1, 2022, and apply the appropriate exemptions and/or discount amounts to certified NZ and ZE heavy-duty trucks. The existing and new NZ trucks added to the Ports drayage registry through 2022 shall have "SB 1" lifetime exemption from the Clean Truck Program fund rate. The new NZ trucks added to the Ports drayage registry from 2023 to 2027 shall have at least partial exemption from the Clean Truck Program fund rate. As stated in the 2017 CAAP Update, in addition to CARB's establishment of the low-NOx engine standards, the initiation of the Clean Truck Program rate will be contingent on completion of an economic study, an assessment of technical feasibility and a determination of commercial availability of NZ and ZE trucks, and establishment of a rate collection mechanism. The Clean Truck Program rate shall be as set in the resolution adopted pursuant to MOU Schedule No. 1, Section III, GI. [PLACEHOLDER for adjusting the rate over time as needed.] Any subsequent updates to the rate amount adopted by the Ports' Boards of Harbor Commissioners in their sole discretion into the Ports' Tariffs will be incorporated into this MOU by reference.

~~G.K.~~

- ~~H.L.~~ By fall of 2021~~0~~, following or concurrently with action in MOU Schedule No. 1, Section III, H, adopt a resolution to commence an early action waiver to the Clean Truck Program annual registration fee for certified NZ and ZE heavy-duty trucks.
- M. Commit to implement and enforce the Clean Trucks Program, collect associated fees and rates, and expend the collected funds on the Clean Trucks Programs, including ~~without limitation,~~ program administrative expenses ~~and,~~ incentive programs ~~toward the purchase of low-NOx NZ and ZE trucks,~~ in collaboration with South Coast AQMD ~~and CARB,~~ and ~~potentially~~ installation of infrastructure including charging and fueling stations for ~~NZ and~~ ZE vehicles.
- N. By fall of 2021, develop the structure for a new incentive program, in collaboration with South AQMD and CARB, to accelerate deployment of NZ and ZE trucks.
- O. Beginning January 1, 2022, initiate the implementation of the new incentive program toward purchasing NZ and ZE trucks, in collaboration with South Coast AQMD and CARB.
- P. Allocate revenues collected from the Clean Truck Program fund rate for implementing the new incentive program toward purchasing NZ and ZE trucks, excluding any administrative fees, according to the following schedule and allocations:
- i. 2022-2023: Up to 90% NZ; At least 10% ZE;
 - ii. 2024-2025: Up to 80% NZ; At least 20% ZE;
 - iii. 2026-2027: Up to 70% NZ; At least 30% ZE; and
 - iv. 2028+: Up to 100% ZE
- ~~Q.~~ ~~Allocate the revenues collected from the Clean Truck Program rate for implementing incentive programs beginning in 2021, in partnership with South Coast AQMD, to accelerate the deployment of NZ and ZE trucks. The NZ truck engines must be certified to NOx emission rates of 0.0X or lower to qualify for incentive funding.~~
- R. By January 1, 2022, allocate an additional \$200 million towards the new incentive program, specified in paragraph IIIN, to accelerate early deployment of NZ and ZE trucks before January 1, 2023.
- S. By January 1, 2024, adopt and implement a new tariff for an additional Clean Truck Program Fund rate of \$50 per loaded container truck call and allocate the collected revenues according to the following:
- i. 50% toward implementation of the new incentive program according to the schedule and allocations in paragraph III.O.
 - ii. 25% toward ZE charging infrastructure.
 - iii. 25% toward specific programs for ports efficiency and congestion improvements.

- T. By January 1, 2025, adopt and implement another tariff for an additional Clean Truck Program Fund rate of \$25 per loaded container trucks call for non-ZE trucks using near-dock rail yards.
- ~~U.~~ Facilitate truck reservation systems to be implemented by the marine terminals by ~~June end of 2020, if possible,~~ that will integrate existing terminal operating systems and help to increase overall efficiency for cargo movement and reducing truck idling emissions.
- ~~V.~~ The Cities shall facilitate implementation of an early-action pilot of CARB's Heavy-Duty Vehicle Inspection Program (HDVIP) for port drayage trucks.
- ~~W.~~ ~~By the later of 2023, or when a state or federal NZ Standard is required for new truck engine manufacturers, new trucks entering the PDTR must have engines that meet this standard or better. Existing trucks already registered in the PDTR can continue to operate.~~
- ~~X.~~ ~~Modify the Clean Truck Program rate so that by 2035 only trucks that are certified to meet zero emissions will be exempt from the rate.~~
- ~~Y.~~ Participate in South Coast AQMD's TWG which will develop methodologies and quantify the projected emission benefits associated with the implementation of the Clean Trucks Program. ~~The Cities will provide the results of feasibility assessments, an economic study for Clean Truck Fund rate, adopted rate, and all other available, non-privileged and necessary port trucks activity data to the TWG.~~
- ~~Z.~~ By June 1, 2022 and every year thereafter through 2035, provide annual reports on implementation of the Clean Trucks Program to South Coast AQMD for each preceding year, including the implementation status of all commitments specified in this schedule as well as the following information:
- i. Number and type of truck visits to port terminals (i.e., ~~NZ~~Low NOx~~NZ~~, ZE, diesel, and LNG trucks by model year and VIN number);
 - ii. Total revenues collected;
 - iii. Detailed information on incentive funding programs and funding amount provided by Cities or in collaboration with South Coast AQMD and CARB under the Clean Trucks Program including the following information: (Clean Truck and others)
 - a. Total funding amount offered and awarded
 - b. Number of ~~low NOx~~ and ZE trucks funded
 - c. Funding on infrastructure, and efficiency and congestion improvements with description of specific programs
 - iv. For each ~~Low NOx~~ or ZE truck funded through the incentive program offered under the Clean Trucks Program, provide along with the following information on the new and replaced trucks:

- a. Truck VIN number
- b. Truck model year
- c. Gross Vehicle Weight Rating (GVWR)
- d. Engine model year
- e. Fuel type
- e.f. Annual VMT
- g. Annual VMT Registered date in PDTR (for new trucks)
- f.h. Proof of destruction for replaced truck or proof of third party scrappage
- g. Proof of destruction including certificate from the dismantler, if applicable (for replaced trucks)

iii.v. ~~_____~~ **[PLACEHOLDER for any additional information needed for SIP credits.]**

IV. South Coast AQMD OBLIGATIONS

- A. Annually, beginning in 202~~21~~²⁴, the South Coast AQMD, through the TWG and MOU WG, shall monitor the implementation of the Clean Trucks Program by the Cities, calculate actual emission reductions based on the annual reports provided by the Cities, and make the final decision on baseline emissions and emissions reductions to be used to satisfy the obligations and goals of the 2016 AQMP and SIP and determine SIP creditability for the emissions reductions achieved through the Clean Trucks Program.
- B. In the event that the actual emission reduction benefits from implementing the Clean Trucks Program fall short of the projected SIP emission reductions, South Coast AQMD will work collaboratively with the Cities and MOU WG to consider and implement new or enhanced programs to achieve emission shortfalls. Regardless, of the consideration the Parties give to new or enhanced programs or better efforts to quantify existing programs South Coast AQMD shall remain solely responsible to make up any emissions reductions shortfall. The South Coast AQMD will be responsible for submitting such substitute measures to USEPA by statutory deadlines to remedy any potential emission reduction shortfall, subject to consideration and approval by the South Coast AQMD Governing Board.
- C. The South Coast AQMD will ensure that any emission reduction data related to the Clean Truck Program and other pertinent information are fully accessible to the public and the USEPA.

MOU SCHEDULE NO. 2 – CARGO HANDLING EQUIPMENT

This MOU Schedule No. 2 is attached to and a part of the MOU between the Cities and South Coast AQMD.

- I. PROGRAM DESCRIPTION – Coordinate with terminal operators to accelerate adoption and deployment of feasible ZE and ~~NZ low NOx NZ~~ emission cargo handling equipment with a 100% ZE goal by 2030.
- II. PROGRAM TIMEFRAME - Upon execution through 2035.
- III. CITIES OBLIGATIONS - the Cities shall make the following commitments in reference to the 2017 CAAP Update Cargo Handling Equipment Procurement Planning:
 - A. Beginning in 2019, through new or amended leases or other agreements, require each terminal operator to submit an equipment inventory and 10-year procurement schedule for their cargo handling equipment. This procurement plan will be updated annually. Any proprietary information subject to trade secrets is not available for public review or review by South Coast AQMD without express authorization from the terminal operator.
 - B. Beginning ~~in January 1, 2022~~, consistent with the Cities’ legal authorities and obligations, ~~require terminal operators, through new or renewed leases or other agreements~~ with terminal operators, ~~require new equipment added to the terminals to consider be ZE, NZ, or Hybrid equipment first for new purchases, if operationally feasible, or NZ low NOx emissions equipment, if feasible, or cleanest available equipment if ZE and NZ low NOx emissions equipment are not yet feasible or and commercially available; otherwise require Tier 4f equipment.~~ Feasibility determinations would be made through the Ports’ Feasibility Assessment, with exemptions for equipment with low operating hours.
 - C. Beginning January 1, 2023, require terminal operators, through new or renewed leases or other agreements, to accelerate the replacement of existing cargo handling equipment with ZE, NZ, or hybrid equipment, or Tier 4f if ZE/NZ/hybrid equipment are not yet operationally feasible or commercially available, according to the following schedule:
 - i. Replace existing Tier 0 and 1 equipment and pre-2000 gasoline and LPG-powered equipment by January 1, 2023;
 - ii. Replace existing Tier 2 equipment by January 1, 2024;
 - iii. Replace existing Tier 3 equipment and 2000-2010 gasoline and LPG equipment by January 1, 2026;
 - iv. Replace existing Tier 4i equipment by January 1, 2031;
 - v. Replace existing Tier 4f equipment by January 1, 2035; and
 - vi. Require all yard tractors to be ZE by January 1, 2031.

- D. By January 1, 2023, require the use of renewable diesel fuel for all pre-Tier 4f diesel off-road equipment operated at ports terminals through new or renewed leases and other agreements with terminal operators.
- E. By January 1, 2028, provide for installation of sufficient ZE charging/fueling infrastructure to supply at least 90% of ZE yard tractors
- B.F. Develop, in collaboration with terminal operators, long term plans and any necessary terminal upgrades, including fueling and charging infrastructure upgrades, to support continued cargo handling operations.
- C.G. Commit to work with terminal operators and equipment manufacturers to negotiate group rates or make bulk purchases to reduce purchase costs, to the extent possible.
- D.H. Beginning in January 2020, ~~commit to~~ work with terminal operators to accelerate the replacement of existing equipment, with priority on the oldest, highest emitting equipment, with ZE and ~~NZ low NOx~~ NZ emission equipment by seeking incentive funding from local, state and federal sources. The Cities will assist and support terminal operators in applying for these incentives.
- E.I. Conduct a feasibility assessment for NZ and ZE cargo handling equipment technologies. Evaluate technical viability, commercial availability, operational feasibility, infrastructure availability, and key economic considerations for NZ and ZE equipment, by October 2019. The feasibility assessment was completed in September 2019. Updates will be made a minimum of triennially through 2035.
- F.J. Support the TWG's efforts to develop estimates by March 2022 of ~~NZ low NOx~~ NZ, ZE or cleanest commercially available equipment for all terminal equipment in 2023 ~~(and 2031 depending on data availability)~~ to address new purchases and replacement of equipment. The Cities will provide data on projections for cleaner equipment based on known equipment transition projects underway, EIR mitigation measures, lease conditions, and other anticipated deployment projections that can be reasonably identified by the Cities and share available information to support reasonable assumptions based upon existing demonstration projects and the feasibility assessment for NZ and ZE cargo handling equipment technologies.
- G.K. Commit to work with utilities and technology providers to implement fueling and charging infrastructure upgrades that are necessary to ensure timely purchase and placement of ZE equipment by terminal operators in accordance with their procurement plans. Terminal operators will not be penalized for purchasing NZ or cleanest available equipment if necessary infrastructure to support the ZE equipment is not in place at their terminals.
- H.L. Participate in South Coast AQMD's TWG which will develop methodologies and quantify the projected emission benefits associated with purchase and operation of NZ and ZE equipment or cleaner equipment based on a reasonable level of implementation in 2023 ~~(and 2031 depending on data availability)~~.

~~I.M.~~ By June 1, ~~of each year beginning in 2022~~ and every year thereafter through 2035, the Cities will provide the [implementation status of all commitments in this schedule as well as the](#) following information to South Coast AQMD on for each preceding calendar year:

- i. List of CHE equipment at the Ports with the following information:
 - a. Equipment ID
 - b. Terminal type
 - c. Equipment type
 - d. Fuel type
 - e. Engine model year
 - f. Power rating (hp or kW)
 - g. Emission control technology
 - [h. Annual operating hours](#)
 - [i. New equipment added \(equipment type, fuel type, hp\)](#)
 - ~~h.j. New equipment purchased~~
- ii. ~~III.i.(i).~~
- iii. Near-term and long-term port-wide projections for deployment of ~~NZ low~~ [NOx/NZ](#) and ZE cargo handling equipment (including hybrid equipment) based on the implementation of 2017 CAAP ~~u~~[Update](#) CHE procurement planning mentioned under this schedule. Any proprietary information subject to trade secrets is not available for public review or review by South Coast AQMD without express authorization from the terminal operator.
- ~~iv. [PLACEHOLDER for any additional information needed for SIP credits.]~~

IV. JOINT OBLIGATIONS

- A. The Parties commit to work closely to identify and demonstrate advanced clean technologies for cargo handling equipment in collaboration with technology providers, terminal operators, other agencies (CARB, USEPA) and other stakeholders.
- ~~V.~~ [B.](#) The Parties will collaborate closely to develop new incentive programs and secure additional sources of funding to accelerate turnover of existing cargo handling equipment and promote adoption of ZE and NZ emission equipment.

~~VI.V.~~ South Coast AQMD OBLIGATIONS

- A. Annually, beginning in 202~~2~~[1](#), the South Coast AQMD, through the TWG and MOU WG, shall monitor the implementation of the program by the Cities, calculate actual emission reductions based on the annual reports provided by the Cities, and determine if any emissions reductions achieved are SIP creditable.
- B. The South Coast AQMD will ensure that any emission reduction data related to the program and other pertinent information are fully accessible to the public and the USEPA.

MOU SCHEDULE NO. 3 – OCEAN GOING VESSELS

This MOU Schedule No. 3 is attached to and a part of the MOU between the Cities and South Coast AQMD.

- I. PROGRAM DESCRIPTION - Reduce emissions from ocean going vessels (OGV) through three programs: (1) Vessel speed reduction (VSR), (2) Green ship incentives, and (3) Clean Ship Program.
- II. PROGRAM TIMEFRAME - Upon execution through 2035.
- III. CITIES OBLIGATIONS - the Cities shall make the following commitments in reference to the 2017 CAAP Update OGV strategies:
 - A. Adopt and implement revisions determined appropriate by their Boards to the VSR programs by January 2023~~0~~ to maximize emission reductions from VSR Program to include the following:
 - i. Extend beyond 40 nm
 - ii. Reduce speed at 10 knots
 - iii. Maximize participation to at least 95%
 - iv. Fees for non-compliance
 - v. Alternative compliance plans as needed (alternate speeds achieving similar or greater reductions)
 - ~~A.B.~~ for all vessels transiting within 40 nm of Port Fermin. In developing the revised VSR program, the Cities will consider: 1) reducing the current 20 nm VSR incentive to encourage all vessels to participate within 40 nm; 2) increasing the incentive amount for the 40 nm VSR program; 3) replacing the dockage rebate incentive with a per call incentive structure; 4) evaluating the potential operational hurdles for compliance; and 5) implementing alternative compliance plans allowing vessel operators to maximize emission reductions for their fleet.
 - ~~B.C.~~ Provide data that can be used by the TWG to project the emission benefits of the VSR program by June ~~October 2019~~2022 and ever year thereafter.
 - ~~D.~~ ~~omit to~~ Expand existing incentive funding programs for VSR with a goal, in amounts to be determined by the Cities' Boards.
 - ~~C.E.~~ Continue to require compliance with the revised VSR program, specified in paragraph III.A. within 40 nm, where possible, in new or renewed leases, or through other agreements.
 - F. Amend the Green Ship Incentives according to the following amounts of funding and schedule:
 - i. Beginning January 1, 2023, increase incentive funding for Tier III vessels with installed propulsion power greater than 40 megawatts to:

1. A minimum of \$20,000 per call if a Tier III vessel begins her maiden voyage on or before December 31, 2022, or if a Tier III vessel enters into the orderbook on or after January 1, 2025; and
 2. A minimum of \$100,000 per call if a Tier III vessel enters into the orderbook on or before December 31, 2024 but has not begun her maiden voyage on or before December 31, 2022.
- ii. Beginning January 1, 2024, provide incentive funding for Tier II+ vessels and Tier III vessels with installed propulsion power equal to or less than 40 megawatts to a minimum of \$20,000 per call.
 - iii. If more than 10 partnering ports on the trans-pacific routes as published the top 10 container shipping lines (by number of containers loaded/unloaded at POLA/POLB) sign on to a similar program, then the funding level may be reduced no more than 60%.
- G. Implement a variable rate under the Ports Clean Ship Program to discourage older vessel calls according to the following schedule:
- i. Tier 0 vessels beginning January 1, 2024 with rate increasing per year (remove the VSR dockage fee discount proportional to the number of Tier 0s making a call and charge a rate at least as high as the VSR dockage fee discount).
 - ii. Tier 1 vessels beginning January 1, 2025 with rate increasing per year (remove the VSR dockage fee discount proportional to the number of Tier 1s making a call and charge a rate at least as high as the VSR dockage fee discount).
 - iii. Allocate funding from the Ports Clean Ship Program to provide incentive funding for early implementation of At-berth regulation for regulated vessels as well as for non-regulated vessels under At-berth regulation (e.g., general cargo, bulk vessels).
- ~~D. After 2025, study and develop a variable rate on OGVs, at the discretion of their Boards, to encourage calls by cleaner vessels (Tier 2 and Tier 3 vessels) and discourage older vessels (Tier 0 and Tier 1 vessels).~~
- ~~E.H. Modify existing incentive programs in collaboration with South Coast AQMD to include a Tier 2+ level for ships that perform better than the Tier 2 emission levels through on board technologies, alternative fuels, or as demonstrated by engine certificates.~~
- ~~F.I. By June 1, of each year beginning in 2022~~1~~ and every year thereafter through 2035, provide the implementation status of all commitments in this schedule as well as following information to South Coast AQMD for each preceding calendar year:~~

1. Annual OGV emissions by vessel type, engine type (main, auxiliary engines, auxiliary boilers) and operational mode (transit, maneuvering, hoteling, anchoring). Vessel types will include:
 - a. Container (By TEU classification)
 - b. Tankers
 - c. Cruise Ships
 - d. Reefers
 - e. General Cargo
 - f. Bulk Vessels
 - g. Auto Carriers
 - h. ROROs
 - i. Ocean Tugs
 - j. Misc. Vessels
2. Number and percentage of inbound and outbound calls complying with ~~20 nm and 40 nm~~-VSR [program](#) by vessel type and shipping lines;
3. Number of vessel calls by vessel type and Tier level
4. Data for vessels receiving incentives from the ports for meeting Tier 2+ and Tier III level, to include:
 - a. Vessel name
 - b. Technology type and control efficiency
 - c. NOx emission level achieved
 - d. Number of vessel calls
 - e. Placeholder for additional information.
- ~~5. [PLACEHOLDER for any additional information needed for SIP credits.]~~

IV. JOINT OBLIGATIONS

- A. The Parties commit to working closely to identify and conduct demonstration technologies for reducing emissions from ocean going vessels' main engines, auxiliary engines and auxiliary boilers in collaboration with engine manufactures, technology providers, shipping lines, other agencies (CARB, USEPA) and other stakeholders.
- B. The Parties commit to working closely to develop and coordinate new and existing incentive programs for OGVs based on retrofit technologies or accelerated deployment of Tier 3 vessels. To implement the new OGV incentive programs, the South Coast AQMD and the Cities commit to pursue new sources of funding (to be expanded).

V. South Coast AQMD OBLIGATIONS

- A. Annually, beginning in 202~~21~~, the South Coast AQMD, through the TWG and MOU WG, shall monitor implementation of the OGV programs by the Cities and South

Coast AQMD, calculate emissions reductions based on annual reports provided by the Cities, and determine if any emissions reductions achieved are SIP creditable.

- B. The South Coast AQMD will ensure that any emission reduction data related to the program and other pertinent information are fully accessible to the public and the USEPA.
- C. The Parties commit to working closely to engage with international port authorities to coordinate the development of new and existing incentive programs for OGVs.

MOU SCHEDULE NO. 4 – HARBOR CRAFT

This MOU Schedule No. 4 is attached to and a part of the MOU between the Cities and South Coast AQMD.

- I. PROGRAM DESCRIPTION - Reduce harbor craft emissions and fuel consumption.
- II. PROGRAM TIMEFRAME - Upon execution through 2035.
- III. CITIES OBLIGATIONS - the Cities shall make the following commitments in reference to the 2017 CAAP Update harbor craft strategies:
 - A. Develop an incentive program to upgrade harbor craft to the cleanest available engines. The incentive program will be evaluated annually to determine best available engine technology. Incentives may be provided by securing grants from federal, state, or local agencies, a formal incentive program with financial rewards, or through more favorable lease terms, where applicable, for harbor craft operators that have cleaner fleets.
 - B. Require all remaining harbor craft operating at the ports with Tier 0 and 1 engines to apply for incentive funding from any agency by July 1, 2022, and to use the incentive funding if awarded, or cease operation at the Ports by January 1, 2023.
 - C. Provide incentive funding to accelerate replacement of harbor craft equipped with Tier 2 and 3 engines with Tier 4 engines and ZE technologies, where applicable, earlier than required under CARB's proposed regulation (schedule to be developed).
 - D. Require use of renewable diesel fuel for all harbor craft operating at the Ports by January 1, 2023.
 - ~~B-E.~~ Conduct a study to evaluate operational changes to reduce harbor craft emissions, for example, by reducing wait time or slow speed movements of assist tugboats to minimize unnecessary travel.
 - ~~C-F.~~ Continue to provide and expand infrastructure to allow harbor craft to plug into shore power while at berth.
 - ~~D-G.~~ Inform the South Coast AQMD of any initiative that results in a reduction of emissions from harbor craft and provide data to quantify the emission reductions.
 - ~~E-H.~~ Require harbor craft modernization through new and renewed leases or other agreements with harbor craft operators, where possible.
 - ~~F-I.~~ Participate in South Coast AQMD's TWG which will develop methodologies and quantify the projected emission benefits associated with the implementation of harbor craft strategies.
 - ~~G-J.~~ By Beginning in June 1, 2022 and every year thereafter through 2035, provide the implementation status of all commitments in this schedule as well as the following information to South Coast AQMD on an annual basis by June for each preceding calendar year:

- a. List of harbor craft operating at the Ports with the following information:
 - a. Vessel ID
 - b. Vessel type
 - i. Assist tugboats
 - ii. Commercial fishing vessels
 - iii. Crew boats
 - iv. Ferry vessels
 - v. Excursion vessels
 - vi. Government vessels
 - vii. Tugboats
 - viii. Ocean tugs
 - ix. Work boats
 - c. Fuel type
 - d. Engine type and model year
 - e. Power rating (hp or kW)
 - f. Engine tier level
 - g. Emission control technology (if applicable)
 - h. Annual operating hours
 - i. New harbor craft added
 - ~~h.~~ ~~New harbor craft in operation~~
- b. Description of incentive funding program developed, funding amount provided and awarded, and number and types of harbor craft funded
- ~~b.c.~~ List of harbor craft removed or no longer operating during the reported year with the above information
- ~~e.d.~~ Description of programs implemented to reduce harbor craft emissions as specified in III.A. to III.~~E.~~ in this schedule.
- ~~d.e.~~ **[PLACEHOLDER for any additional information ~~needed for SIP credits.~~]**

IV. JOINT OBLIGATIONS

- A. The Parties commit to working closely to identify and conduct demonstration technologies for reducing emissions from harbor craft's main and auxiliary engines in collaboration with engine manufacturers, technology providers, other agencies (CARB, USEPA) and other stakeholders.
- B. The Parties commit to working closely to develop new or enhanced incentive programs for harbor craft based on retrofit technologies or accelerated deployment of ZE, hybrid or Tier 4 vessels. To implement the new harbor craft incentive programs, the South Coast AQMD and the Cities commit to pursue new sources of funding (~~PLACEHOLDER to be expanded~~).

V. South Coast AQMD OBLIGATIONS

- A. Annually, beginning in 2022, tThe South Coast AQMD, through the TWG and MOU WG, shall monitor the implementation of the harbor craft strategies by the Cities and the South Coast AQMD, calculate emission reductions based on the annual reports provided by the Cities, and determine if any emissions reductions achieved are SIP creditable.
- B. The South Coast AQMD will ensure that any emission reduction data related to the program and other pertinent information are fully accessible to the public and the USEPA.

MOU SCHEDULE NO. 5 - LOCOMOTIVES

This MOU Schedule No. 5 is attached to and a part of the MOU between the Cities and South Coast AQMD.

- I. PROGRAM DESCRIPTION - Increase the percentage of cargo moving by rail to and from the port complex and seek utilization of the cleanest locomotives.
- II. PROGRAM TIMEFRAME - Upon execution through 2035.
- III. CITIES OBLIGATIONS – the Cities shall make the following commitments in reference to the 2017 CAAP Update rail strategies:
 - A. Invest in rail infrastructure with the goal of increasing containerized cargo moving through the port complex by rail ~~from 23.5% in 2016~~ to 35% by the earliest feasible date.
 - B. Beginning January 1, 2023, require all railroads operating at the ports or at a near-dock railyard¹ to provide annual reporting to South Coast AQMD on all locomotive activity at the Port (e.g., number, Tier level, MWhr)
 - C. Implement a new Clean Locomotive Program rate that:
 - i. Beginning January 1, 2023, adopt and implement a \$10/TEU rate for any container (full or empty) that is loaded onto or unloaded off of a rail car that is moved by any pre-Tier 4 locomotive (rate may be pro-rated for consists with some Tier 4 locomotives)
 - a. Allocate funds from this program to incentivize Tier 4 or cleaner locomotives or ZE locomotive charging/fueling infrastructure
 1. Beginning in 2031, allocate funds from this program to only incentivize ZE locomotives or ZE locomotive charging/fueling infrastructure
 - ii. Adopt and implement an additional \$10/TEU rate that the ports annually pay for any container (full or empty) that is not transported to/from the ports via on-dock rail within the targets below:
 - a. 30% of all TEUs handled at the ports by January 1, 2025;
 - b. 35% of all TEUs handled at the ports by January 1, 2028; and
 - c. Allocate funds collected from this program to improve on-dock rail infrastructure until 2030. After 2030, at least 50% of funds from this program must be used for ZE locomotives or ZE locomotive infrastructure.

¹ Near-dock railyard includes ICTF and SCIG (if built)

D. By January 1, 2025, require all switcher locomotives used on any rail line at the ports or at a near dock railyard to be Tier 4 or cleaner.

~~B.E.~~ Continue to work with rail operators and state and federal regulatory agencies to seek utilization of the cleanest locomotives within the port complex.

~~C.F.~~ Inform the South Coast AQMD of any initiative that results in a reduction of emissions from rail activity in the port complex and provide data to quantify the emission reductions.

~~D.G.~~ Beginning in By June 1, 2022 and every year thereafter through 2035, provide the implementation status of all commitments in this schedule as well as the following information to South Coast AQMD on an annual basis by June for each preceding calendar year:

1. Total and percentage of cargo volume transported by on-dock rail for each port.
2. List of switcher locomotives operating at the ports:
 - a. Locomotive ID
 - b. Fuel type
 - c. Locomotive engine type
 - d. Locomotive engine model year
 - e. Power rating (hp or kW)
 - f. Locomotive engine tier level
 - g. Emission control technology, if applicable
 - h. Annual operating hours
 - i. Annual fuel usage
3. Description of programs implemented to reduce locomotive emissions as specified in III.A. to III.~~FE~~ in this schedule
- ~~4.~~ **PLACEHOLDER for any additional information needed for SIP credits.**

III. JOINT OBLIGATIONS

- A. The Parties commit to working closely to identify and conduct demonstration technologies for reducing emissions from rail locomotives operating at ports in collaboration with engine manufacturers, technology providers, other agencies (CARB, USEPA) and other stakeholders.
- B. The Parties commit to working closely to develop new incentive programs for locomotives operating at the ports based on near-zero or zero-emission technologies or deployment of Tier 4 locomotives. To implement the locomotives incentive programs, the South Coast AQMD and the Cities commit to pursue new sources of funding. **(PLACEHOLDER to be expanded).**

IV. South Coast AQMD OBLIGATIONS

- A. Annually, beginning in 2022, The South Coast AQMD, through the TWG and MOU WG, shall monitor the implementation of the locomotive rail strategies by the Cities and South Coast AQMD, calculate emission reductions based on the annual reports provided by the Cities, and determine if any emissions reductions achieved are SIP creditable.
- B. The South Coast AQMD will ensure that any emission reduction data related to the program and other pertinent information are fully accessible to the public and the USEPA.