PORT OF OAKLAND

Final - May 23, 2019

Seaport Air Quality 2020 and Beyond Plan

The Pathway to Zero Emissions

CONTENTS

TABLES

FIGURES

ACRONYMS AND ABBREVIATIONS

2020 and Beyond Task Force	Seaport Air Quality 2020 and Beyond Plan Task Force
AB 617	Assembly Bill 617
ACHSA	Alameda County Healthcare Services Agency
BAAQMD	Bay Area Air Quality Management District
Board	Board of Port Commissioners
CAAP	Clean Air Action Plan
CARB	California Air Resources Board
CHE	cargo-handling equipment
City	City of Oakland
DPM	diesel particulate matter
draft PEP	draft Public Engagement Plan
Draft Plan	Draft Seaport Air Quality 2020 and Beyond Plan (June 29, 2018)
2015 EI	2015 Seaport Emissions Inventory
2017 EI	2017 Seaport Emissions Inventory
EP&P	Port of Oakland, Department of Environmental Programs and Planning
Final Plan	The final Seaport Air Quality 2020 and Beyond Plan
GHG	greenhouse gas
HRA	Health Risk Assessment
HVIP	Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project
Jones Act	Merchant Marine Act of 1920
LCFS	Low Carbon Fuel Standard
LNG	liquefied natural gas
MAQIP	Maritime Air Quality Improvement Plan
NTAP	Near-Term Action Plan
NZE	near-zero-emissions
OAB	Oakland Army Base
OEM	original equipment manufacturer
OGRE	Oakland Global Rail Enterprise

OGV	ocean-going vessel
PEP	Public Engagement Plan
Plan	Seaport Air Quality 2020 and Beyond Plan
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PMSA	Pacific Merchant Shipping Association
Port	Port of Oakland
Revised Draft	Revised Draft Seaport Air Quality 2020 and Beyond Plan (Dec. 14, 2018)
RTC	Responses to Comments
RTG	rubber-tired gantry crane
SPBP	San Pedro Bay Ports
TAC	toxic air contaminants
TRL	technological readiness level
TRU	transport refrigeration unit
UP	Union Pacific Railroad Company
WOCAAP	West Oakland Clean Air Action Plan
ZANZEFF	Zero and Near-Zero Emissions Freight Facilities

SEAPORT AIR QUALITY 2020 AND BEYOND PLAN: THE PATHWAY TO ZERO EMISSIONS

Final

Volume II

Responses to Comments on the December 14, 2018, Revised Draft Seaport Air Quality 2020 and Beyond Plan

INTRODUCTION

Public review and comments are important ways stakeholders contribute to plan development. This Responses to Comments (RTC) document provides detailed responses to the comments received on the *Revised Draft Seaport Air Quality 2020 and Beyond Plan* (Revised Draft) dated December 14, 2018, including revisions to the Revised Draft to prepare the *Final Seaport Air Quality 2020 and Beyond Plan* (Final Plan).

This RTC document includes responses to comments (RTCs) on both the *Draft Seaport Air Quality 2020 and Beyond Plan* (Draft Plan) dated June 29, 2018 (Port 2018a) and the Revised Draft. The responses to comments on the Draft Plan are shown in italics to differentiate them from comments on the Revised Draft. In some cases, based upon new information (e.g., from feasibility assessments), there are some differences between the responses to comments on the Draft Plan and the responses to similar comments on the Revised Draft.

PUBLIC REVIEW OF THE SEAPORT AIR QUALITY 2020 AND BEYOND PLAN

Stakeholder engagement in the Seaport Air Quality 2020 and Beyond Plan (the 2020 and Beyond Plan or Plan) development process began in mid-December 2017-January 2018 with an assessment of stakeholder interest and concerns regarding Seaport air quality planning. Among the key assessment findings, stakeholders expressed a strong preference for a succinct update to the *Maritime Air Quality Improvement Plan* (MAQIP) and a more extensive process to develop the 2020 and Beyond Plan. On February 23, 2018, the Port re-convened the MAQIP Task Force with a focus on technical studies pertaining to the

MAQIP, including the status of emissions reductions. Port of Oakland (Port) staff presented the Draft Plan concept (or blueprint) at the Board of Port Commissioners (Board) meeting on April 12, 2018. At the MAQIP Task Force meeting on May 9, 2018, the Task Force formally became the Seaport Air Quality 2020 and Beyond Plan Task Force (2020 and Beyond Task Force or Task Force). At the June 21, 2018 Task Force meeting, the Port presented key policy considerations and the proposed approach in the Draft Plan.

DRAFT SEAPORT AIR QUALITY 2020 AND BEYOND PLAN (JUNE 29, 2018)

The Port released the Draft Plan for public review on June 29, 2018. The Port notified the public of the availability of the Draft Plan for review and comment through a Notice of Review, which the Port distributed through many channels, including the Port website, public libraries, and emails. Pursuant to the Notice of Review, the Port invited comments in writing and by telephone. Port staff presented the Draft Plan to the Board at its July 12, 2018 meeting. The public comment period on the Draft Plan ended on August 31, 2018. Public comments were also received by the Port at the 2020 and Beyond Task Force Meeting on September 26, 2018.

The Port responded to each of the 348 comments received on the Draft Plan in Volume II of the Revised Draft. The Port identified nine major comment topics. The Port provided a detailed response to each of these major comment topics as well as an individual response for each comment. The comment responses documented the changes from the Draft Plan to the Revised Draft in response to the comments.

REVISED DRAFT SEAPORT AIR QUALITY 2020 AND BEYOND PLAN (DECEMBER 14, 2018)

In many of the comment letters and in comments provided at the Task Force meeting on September 26, 2018, stakeholders requested an opportunity to review changes made to the Draft Plan prior to having Port staff present the Final Plan to the Board for consideration. The Port accommodated and supported these requests by developing the Revised Draft. The Port released the Revised Draft for public review on December 14, 2018. The Port notified the public of the availability of the Revised Draft for review and comment through a Notice of Review, which the Port distributed through many channels, including the Port website, public libraries, and emails. Pursuant to the Notice of Review, the Port invited comments in writing and by telephone. The public comment period was scheduled to end on January 17, 2019; at the request of stakeholders for more review time, the Port extended the public comment period to January 24, 2019.

In conjunction with the public review period for the Revised Draft, the Port held Task Force Meeting #5 on January 10, 2019. At Task Force Meeting #5, the Port presented an overview of the Revised Draft, with a focus on the three new appendices contained in the Revised Draft. Following presentations on the

Revised Draft, stakeholders were invited to participate in roundtable discussions with Port staff. The discussions centered on four topics:

1. Cost and Equipment Assessment for Infrastructure Planning
2. Workforce Development
3. Public Participation
4. Revised Near-Term Action Plan (NTAP)

Stakeholders had the opportunity to engage in discussions on several of these topics or could focus on one topic, as desired. At this meeting the Port also accepted written comments via comment cards. Eight comment cards were submitted.

COMMENT RESPONSE OVERVIEW

For completeness of the record, this RTC document presents responses to comments on the Draft Plan as well as responses to comments on the Revised Draft. Within each section, information pertaining to responses to comments on the Draft Plan is presented first, followed by the corresponding information for the Revised Draft.

Comments on the Draft Plan

The Port received written comment letters from 13 organizations and 1 individual on the Draft Plan. Additionally, the Port received three phone calls regarding the Draft Plan. The Pacific Merchant Shipping Association (PMSA) also commented extensively on the Draft Plan in the August 2018 issue of the *West Coast Trade Report*, and participants at the Task Force Meeting on September 26, 2018, provided comments orally. The Port compiled all the comments received in a Comment Response Matrix (see Tables RTC-2 and RTC-3 in Volume II of the Revised Draft). All comment letters, the PMSA newsletter, phone call transcripts, and the September 26, 2018, Task Force Meeting Summary are found in Section 3 of Volume II of the Revised Draft.

The Port identified 348 comments on the Draft Plan. The Port categorized the comments into nine general topic areas, as follows:

- Topic #1: Vision: Pathway to Zero Emissions
- Topic #2: Community Health Risk and AB 617
- Topic #3: Document Review
- Topic #4: Emissions Inventories
- Topic #5: Financial Feasibility
- Topic #6: Funding and Funding Mechanisms

- Topic #7: Stakeholder Engagement
- Topic #8: Goals
- Topic #9: Zero-Emissions Technology

The order of topics above does not imply relative importance.

Comments on the Revised Draft

The Port received written comment letters, emails, and comment cards on the Revised Draft from a total of 11 organizations. Similar to the response to comment response process for the Draft Plan, the Port compiled all comments received in a Comment Response Matrix which is included in this RTC document (see Tables RTC-3 and RTC-4 in Section 2). All comment letters, emails, and comment cards are provided in Section 3.

The Port identified 220 comments on the Revised Draft. The Port again categorized the comments into general topic areas. Based upon the comments received on the Revised Draft, the Port identified four new topic areas:

- Topic #10: Infrastructure
- Topic #11: Port Staffing and Resources
- Topic #12: Truck Parking and Charging
- Topic #13: Appendix F – Equipment Operations and Cost Assessment to Assist with Electric Infrastructure Planning

Overview of the Responses to Comments Document

This RTC document is organized into three sections. Section 1 provides master comment responses for each of the general topics listed above. Some comments did not fit into any of the topics and are addressed specifically in Tables RTC-3 and RTC-4). Section 2 provides an individual response for each comment (see Tables RTC -3 and RTC-4). Section 3 provides all the written comment documents (letters, emails, and comment cards), which show the individual comments. The References section following Section 1 includes the sources cited in this RTC document.

The Port carefully considered all comments and, where applicable, revised the Revised Draft to create the Final Plan.

MAJOR CHANGES TO THE SEAPORT AIR QUALITY 2020 AND BEYOND PLAN

Draft Plan to Revised Draft

The Port revised the Draft Plan to reflect public comments, where applicable, and the information contained in three new appendices:

- Appendix E*:* Workforce Development Plan
- Appendix F: Equipment Operations and Cost Assessment to Assist with Electrical Infrastructure Planning
- Appendix G: Public Engagement Plan

In addition to the new appendices, other significant revisions included:

- Revisions to the NTAP. The Revised NTAP (Table 2 of the Main Text of the Revised Draft) provided:
  - More concrete actions[1]
  - A specific timeline and a responsible party designation for each Implementing Action
  - The status of each action (i.e., suggested or programmed[2])
- Addition of Implementing Actions for Strategies #4 through #6 in Appendix C: Detailed Description of Potential Implementing Actions[3]
- Revisions to Appendix D: Potential Screening Criteria for New Implementing Actions[4]
- Textual and structural revisions to reconcile Plan elements and to improve the readability of the Revised Draft.

More detailed information regarding these revisions is provided in the comment responses below and in Tables RTC-2 and RTC-3 in Volume II of the Revised Draft.

Revised Draft to the Final Plan

The Revised Draft (including appendices) was revised to create the Final Plan and to reflect public review comments, where applicable. Significant revisions include:

[1] Concrete actions are actions that apply to equipment, infrastructure, fuels, and operations. Concrete actions are contrasted with studies and monitoring, which do not provide direct emissions reductions but are also crucial to effective Plan implementation.

[2] Note: The Port has changed the terminology from "potential" to "selected" for Implementing Actions that have been selected for implementation but for which funding has not yet been secured.

[3] Note: Appendix C has a modified title, Suggested Actions, in the Final Plan

[4] Note: In the Revised Draft, Appendix D was titled "Screening and Evaluation of Implementing Actions." In the Final Plan, Appendix D has a modified title, "Screening and Evaluation Criteria for Implementing Actions."

- Revisions to the NTAP – see Table 2 in the Main Text of this Final Plan. The Final NTAP now includes five additional actions, including two infrastructure actions.
- A compilation of all new Suggested Actions provided in comments on both the Draft Plan and the Revised Draft (see Appendix C, Table C-3).
- Clarification of the Task Force's and Task Force Co-Chairs' role in Plan implementation (see discussion of the screening and evaluation process for Implementing Action in the Main Text of the Final Plan, and Appendix G: Public Engagement Plan).
- New information about the Low Carbon Fuel Standard (LCFS) program.
- New information gathered from two new sources:
    - San Pedro Bay Ports (SPBP) *Clean Air Action Plan Draft 2018 Feasibility Assessment for Drayage Trucks* (SPBP 2018)
    - Bay Area Air Quality Management District (BAAQMD) presentation regarding the Draft 2019 Human Health Risk Assessment (BAAQMD 2019)
- Textual and structural revisions to reconcile Plan elements and to improve the readability of the Final Plan.

More detailed information regarding these revisions is provided in the comment responses below and in Tables RTC-3 and RTC-4.

SECTION 1—MASTER COMMENT RESPONSES BY TOPIC

Section 1 presents the main topics and a response to each topic. For comments not easily categorized under these main topics, individual responses are provided in Tables RTC-3 and RTC-4 in Section 2. For continuity, for the nine topics previously defined in responses to comments on the Draft Plan, this section presents the comments and responses on the Draft Plan *in italics*,[5] followed by comments and responses on the Revised Draft.

TOPIC #1: PLAN VISION: PATHWAY TO ZERO EMISSIONS

Comments on the Draft Plan

Commenters expressed strong support for the Plan Vision—a pathway to zero emissions—and commended the Port for proposing this ambitious overarching Plan goal. Commenters acknowledged the substantial progress the Port has made under the MAQIP (Port 2009) to reduce diesel particulate matter (DPM) and criteria pollutants emissions. Commenters recognized the challenges in achieving a zero-emissions Seaport, such as substantial additional infrastructure, technological readiness, costs associated with transitioning to a zero-emissions Seaport, ocean-going vessel (OGV) emissions in transit, and the long-term duration of implementation.

Response to Comments on the Draft Plan

Discussion:

The Port appreciates commenters' support for the pathway to zero emissions. The Port is fully committed to the pathway to zero emissions and will work with stakeholders to address the challenges to achieving this vision.

Comments on the Revised Draft

Commenters reiterated their strong support for the Plan's vision, and PMSA also specifically stated its commitment to making the goals of the Plan a success.

Response to Comments on the Revised Draft

Discussion:

The Port appreciates commenters' continued support for the pathway to zero emissions and their review and feedback on the Revised Draft. The Port continues to be committed to the pathway to zero emissions and to working with stakeholders during the implementation of the Plan.

[5] For readability and consistency, minor terminology changes have been made to some of the text.

Revisions:
No revisions required.

TOPIC #2: COMMUNITY HEALTH RISK AND AB 617

Comments on the Draft Plan

Commenters posed questions pertaining to community health risk and the Plan's relationship to Assembly Bill 617 (AB 617). The commenters requested that the Port align the Plan planning process with the AB 617 community air quality plan planning process. One commenter suggested that the Port partner with local health agencies to develop specific strategies and actions to reduce cumulative health risks.

At the Task Force meeting on September 26, 2018, BAAQMD staff requested that the Port provide specific action items from the Plan for incorporation into the AB 617 plan. In addition, several commenters suggested that by doing so, the Port could better position itself to leverage additional funding to benefit the community and the Port's tenants and truck owners and operators.

The comment letters also requested that the Port use the BAAQMD 2009 West Oakland Truck Survey as the basis to characterize drayage trucks' contribution to community health risk. The 2009 West Oakland Truck Survey (BAAQMD 2009) concluded that, while overall DPM emissions and associated risks attributable to trucks were less than estimated in the 2008 Health Risk Assessment (HRA) completed by the California Air Resources Board (CARB), the drayage trucks' contribution to total health risk was greater than estimated in the 2008 HRA. A more detailed description of the findings of the 2009 West Oakland Truck Survey is provided in Appendix B of the Revised Draft. Some comments requested that a "health-needs criterion" be included as part of the feasibility criteria used to screen Suggested Implementing Actions, and that public health benefits should be considered as part of the cost-effectiveness criterion.

Response to Comments on the Draft Plan

Discussion:
Health risk reduction is the most important driver for the MAQIP's focus on reducing DPM emissions related to Seaport operations. The Plan incorporates the MAQIP DPM goal. The Plan serves to guide the Port and stakeholders through potential new regulations, accelerated State of California greenhouse gas (GHG) emissions reductions policy targets, and AB 617's focus on reducing local exposure to toxic air contaminants (TACs).

The Plan relies on CARB, BAAQMD, and the Alameda County Healthcare Services Agency (ACHSA) to assess health risk. These agencies have the expertise to assess health risk, are responsible to the public in this role, and are authorized to establish regulations. The MAQIP relied on CARB's 2008 HRA (CARB

2008) to establish a health risk reduction goal. CARB has not updated the 2008 HRA. In 2015, the California Environmental Protection Agency Office of Environmental Health Hazard Assessment issued a report that changed the risk factors to be used in subsequent CARB HRAs. The 2015 risk factors reflect new data indicating that DPM is more toxic than previously thought. An updated HRA would use the updated risk factors; it would not be directly comparable to the 2008 HRA.

Central to MAQIP is compliance with CARB regulations, which specifically targeted DPM emissions as a proxy for health risk. As a policy matter, the focus of health risk management has now shifted from ambient air quality improvement to reduction of localized exposure to TACs.

The Revised Draft does not propose specific health risk reduction goals. Establishing health risk goals is within the purview of CARB, BAAQMD and ACHSA. However, the Plan contributes to reducing community health risk by promoting the use of zero-emissions equipment, which results in reduced air pollutant emissions, including TACs.

The Port will support development of exposure estimates and health risks by providing underlying data from its emissions inventories to CARB and other agencies for use in their HRAs. The cost-effectiveness criterion includes an assessment of the cost per ton of emissions reduced but will not be expanded to include a health risk component. Maximizing cost-effective emissions reductions will create health risk reduction benefits for the community.

The Port fully supports and recognizes that community health risk in West Oakland is an ongoing priority concern for all. The Plan supports health risk reduction; the key consideration is how each agency can best contribute to the overarching goal of reducing health risk. The Port's role in contributing to the alleviation of health risk in West Oakland is to focus on reducing Seaport-related DPM emissions and to develop and share emissions inventory data with those agencies charged with protecting public health. The Port is also participating in the AB 617 West Oakland Clean Air Action Plan (WOCAAP) planning process as a Steering Committee member. The Port will also share the results of demonstration testing to help accelerate the deployment of zero-emissions equipment.

Revisions:

The Revised Draft provides added information on the Port's commitment to work within the AB 617 WOCAAP planning process. (Appendix B: Background includes a revised discussion of AB 617, including the Port's role in providing emissions inventory data for the agencies responsible for health risk.) The Port has joined the WOCAAP Steering Committee, has participated in workshops to develop the WOCAAP, and has provided data to BAAQMD for its HRA.

In addition, several actions in the Revised NTAP (see Topic #8: Goals) may be suitable for inclusion in the AB 617 West Oakland Clean Air Action Plan.

Comments on the Revised Draft

One comment letter stated that the Plan process should be "merged" with the AB 617 process, and several commenters indicated that aggressive action is necessary to protect the health of the West Oakland community. In addition, one comment letter offered to share data and health metrics developed in support of the WOCAAP pursuant to AB 617.

Response to Comments on the Revised Draft

Discussion:

The Plan development process is proceeding concurrently with the WOCAAP development process. Pursuant to AB 617, the WOCAAP development process is focused on community health risk exposure reduction, whereas the Plan focuses on the Port's role in reducing DPM and other air pollutant emissions that contribute to community health risk. The Port is fully engaged in the WOCAAP Steering Committee and is committed to the principle of improving air quality in West Oakland through participation in the Steering Committee. As a Steering Committee member, the Port supports the efforts of the Steering Committee by advising and informing the development of the WOCAAP.

Furthermore, as described in the final Public Engagement Plan (PEP), existing community forums will be included in the Port's efforts to reach stakeholders and understand the viewpoints of the local impacted community. The final PEP envisions joint forums with, among others, the AB 617 Steering Committee, the West Oakland Truck Management Plan implementation committee, the Alameda County Transit Commission for the GoPort Project, and Plan Bay Area.

The Plan has immediate actions that will be taken along the pathway to zero emissions. The Port will continue to implement feasible, pragmatic actions as its resources permit. In fact, the Port has already taken actions in advance of Plan document completion. For example, the Port has entered into a Memorandum of Understanding (MOU) with the Port of Long Beach regarding the Zero- and Near-Zero-Emission Freight Facilities (ZANZEFF) grant to test new zero-emissions container-handling equipment and drayage trucks. In the MOU, the Port committed to design and construct 10 electric charging stations and provide at least $1.25 million in matching funds. The Port's approach to infrastructure development, which includes immediate infrastructure actions, is described in Topic #10: Infrastructure.

Revisions:

The Port has incorporated information from the findings of the Draft 2019 BAAQMD HRA (BAAQMD 2019) into Appendix B of the Final Plan. Also, in Appendix B: Background, the Port has expanded the

discussion of the relationships among the various plans, programs, and projects that relate to the 2020 and Beyond Plan (see Related Plan, Programs and Projects in Appendix B).

TOPIC #3: DOCUMENT REVIEW (APPENDICES, RESPONSES, AND FINAL PLAN)

Comments on the Draft Plan

Commenters requested that the Port provide an opportunity for stakeholders to review the appendices and the revised Plan before these are provided to the Board for review and decision-making on the Final Plan. Commenters wished to review all elements of the Revised Draft (i.e., the Revised Draft with revised and new appendices, comment letters, and RTCs) for: (1) the comments made, (2) the RTCs, and (3) how the Revised Draft reflected input in the form of revisions to the Draft Plan.

Response to Comments on the Draft Plan

Discussion:

The Port fully supports the commenters' request. Accordingly, the Port adjusted the Plan development schedule to accommodate a second public review period. This allowed for public review of the RTCs, new and revised appendices, and the Revised Draft prior to the presentation of the Final Plan to the Port Board of Commissioners for its review and decision-making.

The Port released the Revised Draft, all appendices, and the RTCs on December 14, 2018. Comments on the Revised Draft and its appendices were due January 17, 2019.[6] *The Port convened a Task Force meeting during the public review period for the Revised Draft to allow for additional comments. In addition, the Port convened a 2020 and Beyond Task Force meeting*[7] *prior to the release of the Final Plan, which is currently planned for Spring 2019.*

Revisions:

The Revised Draft reflects the adjusted Plan development and public review process schedule in both the main body of the text and in Appendix G: Public Engagement Plan.

Comments on the Revised Draft

Multiple commenters expressed appreciation for the opportunity to comment on the Revised Draft as well as the changes the Port made to the Plan as a result of the comments on the Draft Plan.

[6] At the request of commenters, the review period was later extended to January 24, 2019.
[7] The meeting was held on April 23, 2019.

Response to Comments on the Revised Draft

Discussion:

The Port appreciates stakeholders' continued commitment to supporting development of the Plan through their thoughtful comments on the Revised Draft. The Port received written comment letters, emails, and comment cards on the Revised Draft from a total of 11 organizations. As described above, the Port compiled all comments received in the Comment Response Matrix included with this RTC document (see Tables RTC-3 and RTC-4 in Section 2). Section 3 includes all comment letters, emails, and comment cards. The Port provided a response to each comment as well as information on where applicable revisions are found.

The Port identified 220 comments in response to the Revised Draft. The Port categorized the comments into general topics, using the nine topics established for the Draft Plan and adding four new topics, as follows:

- Topic #10: Infrastructure
- Topic #11: Port Staffing and Resources
- Topic #12: Truck Parking and Charging
- Topic #13: Appendix F – Equipment Operations and Cost Assessment to Assist with Electric Infrastructure Planning

Revisions:

The Port prepared this Volume II Responses to Comments on the December 14, 2018, Revised Draft 2020 and Beyond Plan document.

TOPIC #4: EMISSIONS INVENTORIES

Comments on the Draft Plan

Commenters addressed the 2015[8] Seaport Emissions Inventory (EI), with a focus on the emissions inventory methodology, including the geographical domain. Some commenters requested that the domain for truck emissions be extended beyond the freeway on-ramps and suggested that the Port use a methodology similar to the SPBP methodology, which extended the emissions inventory to the first point of rest or the last point of origin.

One comment letter further requested that the Port expand the emissions domain for locomotives and include emissions from transport refrigeration units (TRUs) and the Union Pacific (UP) Railroad

[8] The Draft Plan contained a summary of the 2015 Emissions Inventory (EI) because the 2017 EI was still in progress. The Revised Draft contains a summary of the 2017 EI, which was completed in August 2018, and largely uses the same methodology (including emissions domains) as the 2015 EI.

Company rail yard. Other commenters proposed data sources, requested a sensitivity analysis, and stated that the 2015 EI underestimated emissions and that the emissions domain could be expanded without compromising the ability to compare current levels of emissions to baseline (2005) emissions. One comment letter stated that due to its choice of a truck emissions domain, the Port had potentially overemphasized certain emissions sectors (i.e., OGVs, harbor craft) and underreported others (i.e., trucks). Finally, one commenter commended the Port for continuing to report total tons of emissions rather than emissions per unit of cargo and requested that the Port continue this analytical practice.

Response to Comments on the Draft Plan

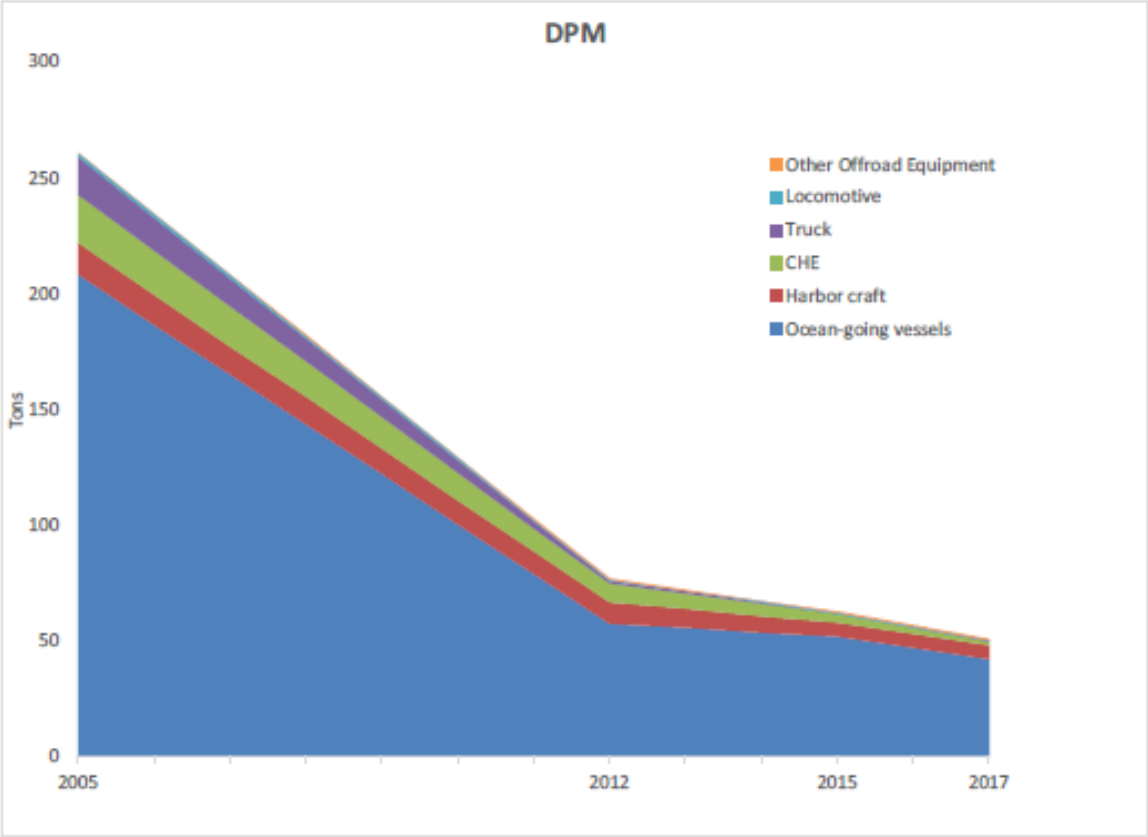
Discussion:

The Draft Plan reflected the results of the Port's 2015 EI. The Draft Plan relied on the 2015 EI primarily to provide context for Strategy #1: Continue emissions reduction programs and projects (Focus: Continue to reduce DPM). Going forward, the main purpose of the Seaport emissions inventories is to monitor the Port's progress towards MAQIP emissions reduction goals. The Plan proposes periodic emissions inventories.

Since the June 29, 2018, publication of the Draft Plan, the Port has completed the 2017 EI - its fourth emissions inventory since 2005. The 2017 EI shows continuing improvement in emissions reductions with the bulk of remaining emissions due to OGV and harbor craft (HC). Prior to beginning the 2017 EI, the Port met with BAAQMD and CARB to discuss the emissions inventory methodology. BAAQMD used the same methodology to develop inventories for the Ports of San Francisco, Benicia, Redwood City, and Richmond.[9] *The emissions inventory methodology incorporates new analytical tools and data as they become available. For example, the 2017 EI incorporates Automatic Information Systems data for OGVs.*

[9] http://www.baaqmd.gov/research-and-data/emission-inventory/local-studies

Figure RTC-1: DPM Emissions by Equipment Category (tons per year)



Source: Port of Oakland 2017 Seaport Air Emissions Inventory Final Report (Ramboll 2018).

Table RTC-1 provides the results of the four Seaport emissions inventories completed for years 2005, 2012, 2015, and 2017. As shown in Table RTC-1, DPM emissions from all Seaport sources have declined by 81% over the Year 2005 baseline.

Regarding the comment that the 2015 EI underestimated emissions, the Port relied on EMFAC2014[10]*, which was the most recent model published by CARB and approved by the United States Environmental Protection Agency for drayage truck emissions at the time that the 2015 EI was prepared. Since publication of EMFAC2014, University of California, Berkeley research, led by Dr. Chelsea Preble, on in-use drayage trucks has shown that emissions control devices are failing with higher emissions impacts than CARB assumed in the development of EMFAC2014. (Dr. Preble presented her findings at the MAQIP Task Force meeting on February 23, 2018.) CARB's modeling assumption in EMFAC2014 could lead to the conclusion that the 2015 EI understated truck-related emissions.*

[10] https://www.arb.ca.gov/emfac/

In early 2018, CARB released EMFAC2017, which assumed higher emissions for emissions control device failure in drayage trucks than EMFAC2014. The Port used EMFAC2017 in preparation of the 2017 EI, thereby incorporating the higher emissions from control device failure into the 2017 EI.

Table RTC-1: Comparison of 2017 Seaport Emissions to Prior Year Port Inventories

CRITERIA POLLUTANTS

2017 Inventory	ROG	CO	NOx	PM_{10}	$PM_{2.5}$	DPM	SOx
Ocean-going vessels[a]	177	219	2,345	49.5	45.9	42.2	129
Harbor craft	19	81	152	6.1	5.9	6.1	0
CHE	19	162	173	1.7	1.6	1.6	0
Truck	5	24	80	0.9	0.5	0.3	0
Locomotive	1	1	17	0.3	0.2	0.3	0
Other Offroad Equipment	1	40	11	0.3	0.3	0.3	0
Total	**221**	**527**	**2,777**	**58.8**	**54.4**	**50.7**	**130**
% Reduction from 2005	11%	40%	31%	78%	78%	81%	91%
2015 Inventory	**ROG**	**CO**	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**DPM**	**SOx**
Ocean-going vessels	182	259	2,715	58.7	54.3	51.8	141
Harbor craft	23	97	166	6.6	6.4	6.2	0
CHE	43	253	332	3.9	3.6	3.7	1
Truck[b]	5	16	91	0.8	0.4	0.2	0
Locomotive	0	2	14	0.2	0.2	0.2	0
Other Offroad Equipment	1	12	11	0.6	0.5	0.6	0
Total	**254**	**639**	**3,328**	**70.8**	**65.5**	**62.8**	**142**
2012 Inventory	**ROG**	**CO**	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**DPM**	**SOx**
Ocean-going vessels	176	232	2,591	66.9	62.1	57.4	289
Harbor craft	25	95	235	9.3	9.0	9.3	0
CHE	35	207	413	8.0	7.4	7.9	1
Truck[b]	11	43	95	2.1	1.6	1.5	0
Locomotive	1	2	19	0.5	0.4	0.5	0
Other Offroad Equipment	1	4	4	0.3	0.3	0.3	0
Total	**249**	**584**	**3,358**	**87.2**	**80.8**	**76.9**	**290**
2005 Inventory	**ROG**	**CO**	**NOx**	**PM**	**$PM_{2.5}$[c]**	**DPM**	**SOx**
Ocean-going vessels	117	235	2,484	219.5	201.9	208.5	1,413
Harbor craft	22	83	344.75	13.4	12.3	13.4	3
CHE	53	408	766	21.7	19.9	21.2	7
Truck	49	149	334	15.9	14.6	15.9	2
Locomotive	7	11	76	2.0	1.8	2.0	2
Total	**248**	**886**	**4,005**	**272.4**	**250.6**	**260.9**	**1427**

[a]Emissions based on same methods used in prior year inventories.
[b]Corrected to account for double counting of on-road portion of each trip.
[c]Not included in 2005 inventory; based on assumption that 8% of PM is coarse PM.

Source: *Port of Oakland 2017 Seaport Air Emissions Inventory Final Report* (Ramboll 2018)

Regarding expanding the modeling domain for trucks and locomotives, while some commenters expressed concerns over the emissions domains for trucks and/or locomotives, as described above, the Port and its consultants developed the methodology for the 2017 EI and prior emissions inventories in consultation with BAAQMD and CARB.

Given the differences in operations, volume, geography, and other factors, inclusion of truck emissions to the first point of rest or the boundaries of the air basin would not increase the possibility for meaningful comparison to inventories from other ports, nor would an expansion of the Port emissions inventory boundaries allow for meaningful extrapolation to health risk impacts.

A formal HRA would be required to assess health risks associated with current emissions. Port staff are aware that the BAAQMD, as part of its AB 617 program, is compiling a detailed emissions inventory for all on-road emissions in West Oakland. Such an inventory may provide additional information to support an analysis of truck-emissions-related health risk impacts. BAAQMD will also include impacts from the UP railyard, which UP owns and which is therefore not part of the Port, in its assessment of West Oakland air emissions.

The 2017 EI investigated whether TRU emissions, which were not included in the 2017 EI, should be modeled. The 2017 EI includes a discussion of emissions from TRUs, explaining that TRUs do not operate on terminals where refrigerated containers are plugged into reefer plugs and reefer racks. There is a lack of reliable data on the average number of hours TRUs might operate at the Port when not plugged in. Due to the lack of reliable data, the 2017 EI did not quantify TRU emissions.

The Port completed the 2017 EI in August 2018 (Ramboll 2018). The Port made the underlying data available to CARB and BAAQMD, and consented to having the agencies retain the Port's emissions inventory consultant to provide geographical distribution data for emissions in the 2017 EI. According to the agencies, CARB and BAAQMD will spatially allocate the emissions data provided by the Port. The Port will continue to collaborate with CARB and BAAQMD and may provide data from future emissions inventories. The primary function of the emissions inventory is to monitor the Port's progress toward the MAQIP emissions reduction goals and to continue to inform the Board and the public regarding progress on the reduction of DPM emissions associated with Seaport operations relative to the 2005 baseline.

Revisions:

The Port updated the Revised Draft to reflect the 2017 EI.

Comments on the Revised Draft

Several commenters reiterated their recommendation that the Port expand its emissions inventory domain for drayage trucks. One comment letter asserted that failing to do so could reduce the Port's resolve to take steps to reduce vehicle emissions and reduce the health burden faced by surrounding communities.

Response to Comments on the Revised Draft

Discussion:

As discussed in response to similar comments on the Draft Plan, the Port has completed the 2017 EI. The primary function of the emissions inventories is to monitor the Port's progress toward the MAQIP goal, and to continue to report the reduction of DPM emissions associated with Seaport operations relative to the 2005 baseline.

In 2018-2019, BAAQMD is conducting its own modeling and HRA for the West Oakland community. The Port made its 2017 EI data available to CARB and BAAQMD and consented to having the agencies retain the Port's consultant for their study. BAAQMD used the geographically allocated emissions data for waterside sources found in the Port's 2017 EI and allocated landside emissions based on each terminal's throughput. The Port will continue to collaborate with CARB and BAAQMD and will provide data from future emissions inventories if requested.

The results of the Draft HRA (BAAQMD 2019) showed that emissions from drayage trucks contributed 2% of the total population-weighted incremental cancer risk in West Oakland. This estimate includes emissions from Port trucks on local freeways. The HRA showed that other trucks (i.e., those not engaged in Port-related business) contributed 42% of the total population-weighted incremental cancer risk in West Oakland (freeway and local street emissions combined). All Seaport-related sources combined contributed 30% of the total population-weighted incremental cancer risk for West Oakland. Ocean-going vessels in transit (8%) and at berth (5%), and harbor craft (10%) contributed the majority of the estimated incremental risk.

As is apparent from the NTAP, the Port is prioritizing emissions reductions from equipment sources on marine terminals because some hybrid cargo-handling equipment (CHE) is commercially available, and some zero-emissions equipment is expected to be commercially available within the planning time- frame of the NTAP. These sources are also located closer to the community, an important consideration that is included in the feasibility criteria. Modifying the emissions domain for drayage trucks would not change this prioritization because long-range heavy-duty drayage trucks are not yet commercially available.

Revisions:

The Port has incorporated the outcome of the Draft 2019 BAAQMD HRA (BAAQMD 2019) into Appendix B: Background.

TOPIC #5: FINANCIAL FEASIBILITY

Comments on the Draft Plan

Multiple comment letters expressed concerns about the financial feasibility (i.e., affordability) of the Plan, especially regarding the ability of the Port, its tenants, and truckers to make the substantial investments in infrastructure and equipment to transition to zero emissions.

One commenter stated that the Seaport's slow growth rate (flat to 2%) challenged the Port to fund infrastructure improvements. Another commenter stated that the Draft Plan lacked a financial strategy.

One commenter stated that tenants were reluctant to commit to ground leases beyond 2029 due to concerns that anticipated regulations would burden them with high equipment replacement costs. In contrast, a different commenter stated that regulatory targets helped tenants and equipment owners plan their equipment investments.

Some commenters pointed out that customers might seek out other ports if Oakland becomes too expensive. One commenter stated that he had lost a customer because the customer perceived that costs in Oakland might increase due to new fees. Other commenters, however, stated that customers would pay higher costs if they had no other options. Comments stated the need for a quick return on investment.

Commenters stated that most truckers were independent owner-operators and that most would not be able to purchase a zero-emissions truck even with grants and incentives. One commenter pointed out that most owner-operators would also be unable to obtain financing even when grants and incentives were available. Several commenters also stated that zero-emissions trucks were costly to maintain and recommended that truckers be given technology choices.

Response to Comments on the Draft Plan

Discussion:

The overall costs associated with the Plan are likely to be substantial, and thus financial feasibility is a valid concern. Substantial investments are needed to transition existing equipment and to build necessary support infrastructure. Given the current state of technological readiness of equipment, however, it is unlikely that all investments would be made all at once or during the same phases of Plan implementation. The Plan assumes that tenants and truckers will choose to acquire zero-emissions equipment as it becomes commercially available and more affordable based upon their operational

criteria. The Plan also assumes that "backbone" infrastructure will be constructed incrementally in response to tenant needs. The Port will coordinate with tenants on tenants' estimates of specific power needs, design, and systems costs. Where major systems upgrades are required, such as a substation or new transmission line, the Port would conduct a focused cost assessment, which includes the development of a systems-specific financing strategy. Thus, cost assessment, including financial feasibility, will be an ongoing activity tailored to specific projects during all phases of Plan implementation.

Revisions:

The Draft Plan includes a discussion of the phasing of Plan implementation and affordability as a feasibility criterion. It also includes a summary of financial feasibility considerations in Part I.

Comments on the Revised Draft

The Port received several comments regarding the recent availability of LCFS credits for zero-emissions and hybrid equipment in Seaport service. Some of the comments stated that when LCFS credits are considered, electric drayage trucks are already cheaper than diesel trucks. One comment letter indicated that the Port and its tenants and truckers needed accurate, up-to-date cost data to make good decisions regarding future equipment purchases and infrastructure development, and it also recommended that the Port track the cost and availability of electric drives.

Another comment letter stated that the Plan is ambitious and that the Port's market share has been declining, although the Plan assumes 2% growth in throughput per year. The letter also noted that while it is hoped that the Port can reverse the trend of declining market share, it is important to remember Goal #1 of the Plan: to keep the Port competitive and financially sustainable, and a catalyst for jobs and economic development. The letter also recommended that the Port consider the 2015 estimate prepared by Moffatt & Nichol on behalf of PMSA (Moffatt & Nichol 2015) as a point of reference regarding the potential cost of implementing the entire Plan. Finally, one comment recommended that the Port host a private financing workshop as the Port of Long Beach was doing.

Response to Comments on the Revised Draft

Discussion:

The Port appreciates CARB's and West Oakland Environmental Indicators Project's bringing the LCFS amendments to the Port's attention. As explained in the response to Topic #13: Appendix F – Equipment Operations and Cost Assessment to Assist with Electric Infrastructure Planning, the amendments are so new that it is hard to estimate the costs and administrative burden associated with applying for LCFS credits. In particular, it is unknown if individual owner-operator truckers or small licensed motor carriers would have the capacity to do so. The Port has registered multiple shore power substations with CARB,

which will enable it to apply for LCFS credits for the electricity it sells. The Port has already submitted the data for the first quarter of 2019.

The Port agrees that technology is changing rapidly and that the pricing of zero-emissions equipment is likely to change rapidly as well. The Port and stakeholders will continue to track the development of zero-emissions technology as part of Plan implementation, and some cost information will become available as part of this effort. Updated costs will be considered in the feasibility evaluation of Screened Actions. Each equipment purchaser will make its own decision regarding the feasibility of zero-emissions equipment purchases, and those purchasers interested in zero-emissions equipment will be in direct contact with original equipment manufacturers (OEMs).

Regarding a private financing workshop for electric equipment, the Port has found little interest in the trucker community at this point. The Port and BAAQMD held two open houses for truckers in 2018 (one on January 10, 2018, and the other on September 6, 2018) to share information about BAAQMD grants, Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) incentive vouchers, and regulatory updates. The Port conducted considerable public outreach, but both open houses were sparsely attended. For example, only five truckers attended during the 4-hour event in September. The Port continues to hold regular weekly trucker office hours; these office hours serve as a conduit for information on truck financing. In a typical office hour, from zero to three truckers may come in.

The Plan sets an ambitious vision of the pathway to zero emissions. As described in the Plan, Goal #1 is to keep the Port competitive and financially sustainable, and ensure that the Port remains a catalyst for jobs and economic development. The Plan's feasibility criteria for evaluating Screened Actions include both cost effectiveness and affordability. Implementation of the Plan will occur at a rate commensurate with the financial resources of the Port and its tenants and trucking community, taking into consideration incentive funding and regulatory requirements.

The Port reviewed the 2015 Moffatt & Nichol study (Sustainable Freight Strategy Impact Study, dated December 4, 2015, for PMSA), and will reflect the information in that study in its overall estimate of Plan implementation.

Revisions:

The suggestions for Implementing Actions contained in comments on the Revised Draft (e.g., tracking cost and availability of electric drive technology, and hosting a workshop on private financing) have been added to Table C-3 in Appendix C: Suggested Actions. The Port added a new Implementing Action, Pursue Low Carbon Fuel Standard Credits, to the NTAP. Appendix F: Equipment Operations and Cost Assessment to Assist with Electric Infrastructure Planning has been updated to reflect available information regarding the LCFS credits.

TOPIC #6: GRANTS, INCENTIVES AND FUNDING MECHANISMS

Comments on the Draft Plan

Comments regarding funding included:

- *It is appropriate for the Port to invest in infrastructure to support zero-emissions equipment, given the benefits of reduced emissions to the local community.*
- *It is appropriate to have tenants contribute, and to establish a fee for use of non-zero-emissions trucks.*
- *Many types of incentive and grant funding are available.*
- *Public grant and incentive funding is unlikely to make up more than a small fraction of the total cost of transitioning to a zero-emissions Seaport.*
- *The Port needs to develop a funding strategy, and it must integrate the actions included in the NTAP into its budget.*
- *The Port should establish an investment plan like the SPBP Technology Advancement Program.*

Some commenters questioned whether requirements to achieve certain zero-emissions milestones would reduce equipment owners' eligibility for grant and incentive funding. One comment letter stated that delays in applying for grants might result in the loss of grant funds. Other comment letters recommended that the Port pursue every possible grant and that the Port establish a grant funding team to maximize grants. Several commenters inquired how the Port intended to prioritize grant allocations from the Port to its business partners and asked about support services from the Port for preparing grant applications.

Commenters suggested that the Port investigate funding mechanisms, such as:

- *Low-interest revolving loan funds from the Port to enable tenants and independent truckers to purchase zero-emissions trucks*
- *Air Quality Finance Authority*
- *Green Infrastructure Bonds*
- *Partnering with community groups for Supplemental Environmental Projects grants*
- *Port-funded incentives for independent truckers*
- *Energy service companies*
- *Power purchase agreements (PPAs)*

Response to Comments on the Draft Plan

Discussion:

The Port and Seaport businesses have been leveraging grants to help accelerate the transition to zero emissions. In 2018, the Port provided technical grant application and analytical support to SSA Terminals for Carl Moyer grant funding for 13 hybrid-electric rubber-tired gantry (RTG) cranes. The Port collaborated with the Port of Long Beach in its application for a CARB ZANZEFF grant. Both grant applications were successful. Under the MAQIP, the Port received grants for shore power infrastructure, and the Oakland Global Rail Enterprise (OGRE, a rail operator) obtained a grant to repower a switcher locomotive with a Tier 4 engine. In addition, the Port applied for, but was not awarded, the California Energy Commission Advanced Freight Vehicle Infrastructure Deployment grant for truck-charging infrastructure at four different distribution centers.

Although grant funding is important, simply obtaining more grant funding does not necessarily result in a more rapid rate of technology deployment. There are substantial costs and staff resource commitments associated with obtaining, managing, monitoring, and reporting on grants. These costs limit the number of grants that the Port and its tenants can pursue. For many types of equipment, voucher programs or other streamlined incentive programs would be more effective in supporting the transition to a zero-emissions Seaport.

To the extent the Port issues debt to finance any projects, the Port will consider the spectrum of debt-financing mechanisms available. The Port does not serve as a lending institution or grant-making body but will continue to provide information about grant and incentive opportunities to Port tenants, customers, and truckers.

The Port already uses Energy Service Companies (ESCOs) and Power Purchase Agreements (PPAs) to purchase energy and intends to continue to do so as the load grows from electrification. However, the cost of upgrading the capacity of the electric grid to accommodate tenants' charging operations is the main concern regarding the funding of electrical infrastructure, rather than the cost of electrical power.

Revisions:

The Revised Draft clarifies the importance of external (i.e., non-Port) grant and incentive funding. It also reflects the discussion of debt financing referenced above.

Comments on the Revised Draft

Funding for Plan implementation and funding sources are of concern to most commenters. Some comments reiterated or expanded on comments made on the Draft Plan, specifically that (1) early adoption of technologies will expand opportunities for incentive funding and will accelerate adoption of

zero-emissions equipment and (2) the Port should impose differential fees to incentivize cleaner trucks and OGVs. Commenters stated that gate fees could be used to create incentives for adopting zero-emissions equipment and provide funds for a revolving loan fund or other Port purposes. Commenters also suggested that the Port use lease terms to require or incentivize adoption of zero-emissions equipment. One comment stated that doing so would provide long-term benefits to both the Port and the tenants. Another comment recommended that the Port engage operators in lease negotiations in the early stages to incentivize investment in zero-emissions equipment.

Some commenters stated that the Plan relies too heavily on non-Port sources of funding and that the Port should develop a plan to achieve zero emissions that relies on funding from both Port and non-Port sources. A related comment noted that BAAQMD incentive funds will not be able to meet the demand to fulfill the Port's vision. One comment indicated that the Port needs a source of revenue (such as gate or berth fees) to support infrastructure and other expenses associated with the transition to a zero-emissions Seaport.

One comment recommended that the Port consider a thorough analysis of financing options. Finally, two comments related to specific financing considerations. One requested clarification as to why the Port is not a lending institution, and the other noted that the Port did not include private (e.g., OEM-provided) equipment financing in its description of financing options.

Response to Comments on the Revised Draft

Discussion:

The Port agrees both that incentive funding is likely to be most available during the early phases of zero-emissions equipment development and deployment and that incentive funding is unlikely to be sufficient to support conversion of all equipment serving the Seaport to zero emissions. The Port anticipates that most zero-emissions equipment will be deployed as it becomes cost-competitive with diesel-powered equipment, including used diesel trucks for drivers who purchase used trucks. Each organization or individual owner-operator will determine when it makes sense to replace diesel equipment with zero-emissions equipment, and each will likely take into consideration the availability of incentive funding and the effort associated with obtaining that incentive funding.

The Port will continue to pursue external funding and budget for infrastructure projects using Port funds, as feasible. As described in the response to Topic #5, Financial Feasibility, the Port intends to participate in the LCFS credit program as one means of supplementing funding. The Port is tracking the truck rate study recently initiated by SPBP to help assess whether a rate study is appropriate for Oakland. As previously discussed, a truck rate (per container fee) or differential berthing rate must be evaluated in the context of competitiveness, as cargo owners might divert their cargo to another seaport if costs increase.

Private financing may be an option for some equipment owners, and the Port welcomes all means that increase equipment owners' access to zero-emissions equipment. However, as discussed in Appendix F: Equipment Operations and Cost Assessment to Assist with Electric Infrastructure Planning, availability of financing does not guarantee that potential purchasers will qualify for financing. Finally, the Port is neither a bank nor a lending institution.

Revisions:

The Port added new Suggested Action "Analysis of Financing Options" to Table C-3. The Plan has been revised to clarify recent major Port and tenant investments as part of two grant awards (the Carl Moyer grant to repower 13 RTG cranes and the ZANZEFF grant, a total of $2.8 million). The Port also modified the text of the Plan to indicate that private financing may be an option for some equipment purchasers.

TOPIC #7: STAKEHOLDER ENGAGEMENT

Comments on the Draft Plan

Commenters expressed the desire for stakeholder engagement and the importance of outreach to other stakeholders beyond those already engaged in the Task Force. The commenters also requested that stakeholders, including industry, be included in the development of feasibility criteria and in the screening and prioritizing of Implementing Actions. Community members requested that the Port respond to each comment and that comments be provided in a format that would be easy for all stakeholders to review and understand. One comment specifically requested a public engagement plan.

Response to Comments on the Draft Plan

Discussion:

The Port is committed to meaningful stakeholder engagement. The Plan has a diverse group of stakeholders that includes community members, industry, Port businesses, regulatory agencies, and non-governmental environmental and community organizations.

The Port prepared a draft PEP, provided as Appendix G of the Revised Draft. The draft PEP provided a summary of the comments received regarding stakeholder engagement, described how the full range of potential stakeholders will be engaged, and described the proposed approach for broader stakeholder outreach. Preparation of the draft PEP also included interviews with community members. The draft PEP recommendations will serve to further enhance the Port's communications and community relations with local community and neighborhood groups, community-based organizations and residents, Port-related business interests and tenants, and regulatory agencies. The draft PEP was prepared to present strategies and best management practices for informing, consulting and collaborating with, and empowering stakeholders in the development of the Plan and in the implementation of the NTAP. The draft PEP laid

out a timeline of activities and provided an extensive listing of potential stakeholder groups as well as a community demographic profile.

The Task Force will continue to meet on a regular basis. The Port plans to hold periodic Community Town Hall meetings and conduct targeted outreach to engage community members who may not currently be aware of or engaged in the Plan process.

Revisions:
The Revised Draft contains the draft PEP (Appendix G). The engagement discussion in the Plan was revised to reflect the key elements of the draft PEP.

Comments on the Revised Draft

Several commenters provided comments on the draft PEP. Specifically, commenters indicated that they believe that the proposed stakeholder engagement process should be a multi-stakeholder, solution-oriented process; that Town Halls and community meetings can be effective tools for communication but are not the same as meaningful engagement with the community; that the draft PEP currently provides a top-down stakeholder engagement process; and that the draft PEP omits key details.

Commenters also requested that both the role of the Task Force in Plan implementation and the frequency of reporting be clarified. Several comments suggested specific working groups, one to study a high-emitting truck detection system and a second to collaborate on electricity supply/charging infrastructure. Another comment requested that the Port establish an independent review process to determine emissions reductions benefits and the financial and technical feasibility of Implementing Actions. Finally, one comment expressed appreciation that the Port reached out to tenants in its assessment of technology feasibility.

Response to Comments on the Revised Draft

Discussion:
Effective stakeholder engagement requires three elements: (1) actively engaging with and informing the public, (2) ensuring that those who are interested in specific issues have the technical information required to fully understand those issues and provide meaningful input, and (3) documenting how decisions are made and how the comments and other input received were factored into decision-making. The PEP describes in detail how the Port intends to engage and inform the public. Building stakeholders' technical knowledge and documenting stakeholder contributions to the decisions made will occur in the context of the Task Force. The Task Force Co-Chairs will lead the engagement of the Task Force during NTAP implementation. The Task Force will convene every 6 months for updates on the Plan's progress and general information on related plans, programs, and projects. (Appendix B: Background provides

information about related plans, programs, and projects.) Feedback from Task Force meetings will be documented and inform the Plan Annual Report. The Port's response to the feedback will be reported at the subsequent Task Force meeting.

As described in the Main Text of the Plan, the Task Force Co-Chairs will convene Working Sessions for collaborative problem-solving as needed (see Step 4 of the five-step screening and evaluation process). The Co-Chairs will be charged with developing agendas for these Working Sessions. The Co-Chairs will also consider feedback from the Task Force and comments received in planning the Working Sessions, which will be open to the Task Force and other new stakeholders and members of the public (as referenced in Section 5.2).

The Port met with the UC Berkeley Goldman School of Public Policy's Center for Environmental Public Policy to discuss the potential formation of a high-emitting truck detection system work group. It became clear during the discussion that additional information was needed to determine whether it would be productive to convene such a working group. The Port is committed to participating in such a working group, if appropriate. UC Berkeley Goldman School of Public Policy agreed to take the lead in developing this concept.

Subsequent to Task Force Meeting #6 (April 23, 2019), at the request of the Task Force Co-Chairs the Port provided the updated screening and feasibility criteria to the Co-Chairs for review, comments and discussion with the Port prior to the completion of the Final Plan.

Revisions:

The Port refined the five-step screening and evaluation process and revised the draft PEP to reflect the role of the Task Force Co-Chairs as described above. In addition, a high-emitting truck detection system work group and an electricity supply/charging infrastructure work group have been added to Table C-3 of Appendix C: Suggested Actions. In response to the Co-Chairs' review and comments regarding the screening and evaluation criteria for the five-step screening process, following the April 23, 2019, Task Force Meeting, the Port modified the screening and feasibility criteria as follows:

- Screening Criteria: Added community health risk reduction as part of Screening Criterion 3
- Feasibility Criteria: Added a new criterion for exposure reduction.

The new criteria are presented in Table D-1: Screening Criteria of Appendix D: Screening and Evaluation Criteria for Implementing Actions and Table 1: Feasibility Criteria of the Main Text.

TOPIC #8: GOALS

Comments on the Draft Plan

Commenters requested measurable goals. Some stated that the absence of time-specific actions raised doubts about the Port's commitment to the zero-emissions pathway. Multiple comments requested that the Port accelerate actions within the Intermediate-Term or Long-Term Phases. Conversely, several other comments advised the Port to implement actions incrementally over time. One letter expressed the view that the Draft Plan emphasized studies and planning rather than concrete actions (e.g., a specific action such as commitment to constructing certain infrastructure).

Some commenters requested specific DPM and GHG emissions reduction goals. Multiple comments contained recommendations for target dates by which certain types of equipment should be converted to zero emissions. Several commenters referenced the SPBP 2017 Clean Air Action Plan (CAAP).

The following is a list of the targets and goals suggested in the comment letters:

- *Begin improving infrastructure in the near term (prior to 2023).*
- *Replace switchers operated by OGRE and at the Oakland International Gateway rail yard with zero-emissions rail car movers or locomotives.*
- *Provide emissions reductions milestones every 5 years after 2023.*
- *Identify specific timelines for infrastructure development that supports targets for deployment of electrically powered equipment.*
- *Create conditions under which trucking can evolve to zero emissions.*[11]
- *By 2020:*
    - *Require 100% use of shore power by shore-power-equipped vessels, where feasible.*
    - *Implement a vessel speed reduction program.*
    - *Set interim goals for demonstrating a bonnet-type emissions control system for OGVs.*
    - *Join an international vessel environmental performance incentive program.*
- *By 2021: Achieve 100% zero-emissions drayage trucks within the immediate Port area.*
- *By 2023:*
    - *Complete the transition to 100% zero-emissions (battery-electric) yard tractors.*

[11] This could include efforts by the Port to facilitate power-supply and vehicle-charging infrastructure and to consider entry fees that create financial incentives for the transition to zero-emissions transport.

  - *Ban trucks not equipped with model year 2010 or newer engines.*
  - *Establish a fee structure (truck rate) that charges more for container moves using trucks that do not have the cleanest commercially available technology.*

- *By 2025: Achieve 50% zero-emissions (battery-electric) yard tractors.*
- *By 2026: Convert to 100% electric RTG cranes.*
- *By 2030: Achieve 100% zero-emissions cargo-handling equipment (this is a 2017 CAAP goal).*
- *By 2035: Achieve 100% zero-emissions drayage trucks (this is a 2017 CAAP goal); interim milestones should also be provided.*

Some commenters stated that achieving a zero-emissions Seaport was "hugely aspirational." One comment letter stated that 2050 was a more appropriate date to achieve the zero-emissions Seaport. Another letter stated that it was unlikely that all drayage trucks would ever be converted to zero emissions. One commenter expressed concern that setting the targets too high would discourage investment in the cleaner technology that is currently available. This commenter also expressed concerns about stranded assets.

Several commenters indicated that clear targets would facilitate capital investments. One commenter indicated that inclusion of specific targets in the Plan could motivate vendors to focus more energy on developing clean technology. Industry commenters also noted that investments in clean technology can only occur if the Port and its business partners remained economically viable, that targets should be achievable, and that the Plan should allow for near-zero-emissions technology if zero-emissions technology is not available. They stated that the Port is not only competing with other West Coast ports but also with East Coast ports, and that customers are cost-sensitive and will move their freight to other locations if they have that option.

Finally, commenters also stated that the move to zero emissions was required to meet GHG emissions reductions targets set by the State and to meet health-based air quality requirements, and that specific commitments were needed for inclusion in the AB 617 Community Action Plan (see Topic #2: Community Health Risk and AB 617).

Response to Comments on the Draft Plan

Discussion:

For planning purposes, targets and goals generally fall into three categories: goals related to the Plan itself (Plan Goals); goals related to emissions reduction levels for identified pollutants (Emissions

Reduction Goals), and goals related to equipment and infrastructure (Equipment and Infrastructure Goals).

Plan Goals: The Draft Plan presents the Plan Goals in Part I. The Draft Plan commits the Port to continuing its efforts to reduce DPM emissions and adds a new goal to reduce GHG emissions. No commenters suggested changes to or indicated disagreement with the Plan Goals.

Emissions Reduction Goals: The Draft Plan carries forward the MAQIP's specific emissions reduction goals for DPM and does not set new emissions reduction goals. Some of the targets and goals proposed in the comments are similar to those proposed by the SPBP 2017 CAAP (SPBP 2017). The CAAP targets are reflective of air quality attainment issues in the South Coast Air Basin (the South Coast Air Basin is in Extreme Nonattainment for ozone and Serious Nonattainment for particulate matter less than or equal to 2.5 microns in diameter [$PM_{2.5}$]). Bay Area air quality is considerably better, as the Bay Area Air Basin is in only marginal (federal 8-hour standard) and Serious Non-Attainment (State 1-hour standard) for ozone and Moderate Non-Attainment for $PM_{2.5,}$ respectively. The State Implementation Plan indicates that no additional regulations are required for the Bay Area to achieve and maintain attainment with State and federal ambient air quality standards for criteria pollutants.

The Governor's Executive Orders B-30-15 (and related orders) have set GHG emissions reduction goals as a matter of State policy. Executive Order B-30-15 sets a statewide goal to reduce GHG emissions by 40% below 1990 levels by 2030. Executive Order B-16-12 sets a statewide goal to reduce GHG emissions by 80% below 1990 levels by 2050. These GHG emissions reduction policy goals create a long-term GHG emissions reduction goals framework for implementation of the Plan.

Equipment and Infrastructure Goals: The Revised Draft defines goals in terms of specific actions rather than in terms of emissions reductions targets for specific pollutants. The 2017 CAAP (SPBP 2017) uses the same approach. The Revised Draft responds to the comments requesting more specific and concrete actions by including additional concrete actions and providing the projected year(s) of implementation and operations for each action. As a guiding principle for the Plan, the Port will continue to focus on practicable technology, meaning technology that has achieved a specified level of maturity (see discussion of technological readiness in Topic #9 below).

Revisions:

The Port revised the NTAP to include timelines for each of the actions included in the NTAP and added specific concrete actions for which Port resources have been allocated (Programmed Actions). The NTAP also includes Potential Actions,[12] which are actions that the Port would pursue, subject to feasibility

[12] The term "Potential Actions" has been changed to Suggested Actions in the Final Plan.

review. The Revised NTAP adds two equipment-focused goals that are achievable in the near-term to intermediate-term period and one infrastructure goal to support the two equipment goals.

Comments on the Revised Draft

Many commenters provided comments regarding targets and goals. Comments fell into five general categories:

- Requests for additional Port commitments beyond those in the Revised Draft NTAP
- Recommendations regarding milestone goals for specific percentages of equipment (most of these comments reiterated one or more of the desired targets and goals stated in the comments on the Draft Plan)
- Requests for specific Implementing Actions or requests that certain Implementing Actions contained in Appendix C of the Revised Draft be added to the NTAP
- Requests for sector-specific goals (i.e., goals for each major equipment category in the emissions inventory)
- Recommendation or request that the Port set more ambitious goals

One comment letter acknowledged that some of the comments on the Draft Plan proposed conflicting targets. Several comments indicated that the Port's NTAP was insufficient, and one comment stated that the Revised Draft still does not provide a clear pathway towards zero emissions. Several comments suggested that setting ambitious targets would send a signal to industry to accelerate development of zero-emissions technology. Other comments included the following recommendations:

- The Board should consider the long-term benefits of the recommended actions (securing long-term fuel cost savings, improving public health, and helping with climate stabilization).
- The Port should set goals that encourage and support performance-based standards and allow for both zero and near-zero tailpipe emissions technologies.
- The Port should address pollution from off-site rail yards and coordinate with neighboring rail yards to encourage their use of cleaner technologies.

Finally, two comments asked the Port to clarify if the CHE target for 2025 and the drayage truck target for 2027 (Goals I-1 and I-2 in the NTAP, respectively) included or were in addition to existing commitments.

Response to Comments on the Revised Draft

Discussion:

The Board always considers the long-term view when deciding whether to approve any new plans or initiatives. The Plan itself takes a long-term view, while providing for focused action in the near term.

The Plan frames goals in terms of actions included in the NTAP and focuses on specific actions that the Port and its partners can take to support the pathway to a zero-emissions Seaport. The actions in the NTAP reflect the Port's financial capacity and staffing resources. Critically, equipment actions must be commercially available and operationally feasible based on the AECOM study included in Appendix F: Equipment Operations and Cost Assessment to Assist with Electric Infrastructure Planning, or other similar studies. The NTAP will be reviewed annually, and as some of the actions included in the NTAP are completed, new actions may be added. The annual review will include consideration of then-current information regarding the status of zero-emissions technology for the various equipment sectors.

All Implementing Actions that were suggested in comment letters on the Draft Plan and Revised Draft have been added to Table C-3 of Appendix C: New Suggested Actions. The actions in Appendix C will be screened and evaluated using the screening and evaluation process described in the Main Text.

The Port understands the concerns expressed about emissions from neighboring rail yards. Accordingly, the Port will write a letter encouraging the railroads to use the cleanest available equipment in Oakland (Implementing Action E-L-5). This Implementing Action has been added to the NTAP. The specific goals for zero-emissions CHE and drayage truck deployment include current commitments.

Revisions:

The specific Implementing Actions that were suggested have been added to Table C-3 of Appendix C: Suggested Actions. Implementing Action E-L-5 (Encourage Railroads to Use Cleanest Equipment in Oakland) was added to the NTAP. The Port also added four other new Implementing Actions to the NTAP.

TOPIC #9: ZERO-EMISSIONS TECHNOLOGY

Comments on the Draft Plan

Comments in this category fell into five major subtopics:

- *Zero-emissions technology is more commercially available than portrayed in the Draft Plan.*
- *Zero-emissions technology is less operationally feasible than described in the Draft Plan.*
- *Flexibility in technology choices is important.*

- *Near-zero-emissions (NZE) technology should be considered more positively than it is in the Draft Plan.*
- *Cost of zero-emissions technology should be compared to conventional diesel-powered equipment.*

For the latter, some commenters stated that NZE technology provides more cost-effective emissions reductions, can provide "zero-emissions-equivalent" performance if used with the correct fuel (e.g., renewable natural gas), and is more commercially available than zero-emissions technology.

In addition, some commenters provided feedback on specific Implementing Actions. (These comments are addressed individually in Tables RTC-2 and RTC-3 in Volume II of the Revised Draft.) Comments pertaining to the financial feasibility of zero-emissions technology are addressed in Topic #5: Financial Feasibility.

Response to Comments on the Draft Plan

Discussion:

Although zero-emissions technology has achieved significant market penetration for light-duty vehicles, such as passenger automobiles or small pickup trucks, and the supporting infrastructure (i.e., publicly available chargers) for light-duty vehicles is starting to develop, zero-emissions technology for the heavy-duty equipment sector has not yet matured for commercial operations.

Heavy-duty vehicles require more powerful (direct current) chargers than are commonly available for light-duty vehicles, and they cannot use the same chargers as light-duty vehicles. Maritime use of the equipment imposes additional challenges, including the need for yard tractors to be able to haul much heavier loads than drayage trucks, the potential for three-shift operations, and the likely need for new union job classifications to facilitate the charging operation. With few exceptions, current heavy-duty battery-electric equipment is custom-built (typically a retrofit of a non-electric heavy-duty vehicle). Furthermore, current battery-electric zero-emissions technology has a limited operating range and duration and may lack the power necessary to complete all required tasks.

There are also limitations in the medium-duty equipment market. Many vehicles and other equipment are being produced by third-party vendors; major equipment manufacturers have produced only very limited types of equipment. Purchasing equipment produced by third-party vendors carries considerable risks to the purchaser because these small-scale vendors can easily go out of business, making the warranty useless and parts and/or repair unavailable. Similar considerations exist for emissions reductions technology and/or cleaner technology for OGVs and harbor craft. Although individual retrofits or single pieces of equipment may be in the evaluation stage, except for liquefied

natural gas (LNG) tugs, this equipment has not been sufficiently demonstrated in a full commercial operation.

The United States Department of Energy has a nine-level scale to characterize the status of technological development (DOE 2011). The Port adapted this scale to be applicable to equipment rather than processes. The nine levels, as adapted for equipment, are summarized in Table RTC-2 below. The Port has expanded the scale to consider availability of parts and maintenance services. The majority of zero-emissions equipment is at technological readiness level (TRL) 6 and TRL 7 today.

Table RTC-2: Technological Readiness Levels (TRLs)			
Relative Level of Technology Development	***TRL***	***TRL Definition***	***Description***
Technology Operations	*TRL 9*	*Actual technology or equipment operated over the full range of expected operating conditions*	*The technology or equipment is in its final form and has operated under the full range of operating conditions. Parts and maintenance are readily available.*
Technology Commissioning	*TRL 8*	*Actual equipment completed and qualified through test and demonstration*	*The technology or equipment has been proven to work in its final form and under expected operating conditions. In almost all cases, this TRL represents the end of true equipment development. Parts and maintenance are available on a limited basis.*
	TRL 7	*Full-scale, similar (prototypical) equipment demonstrated in a relevant environment*	*This represents a major step up from TRL 6, requiring demonstration of an actual equipment or technology prototype in a relevant environment. Examples include testing equipment in the field under a range of operating conditions. Final design is virtually complete. Parts are custom-made or adapted, and maintenance is available only from the equipment developer or a very limited group of providers.*
Technology Demonstration	*TRL 6*	*Engineering/pilot-scale, similar (prototypical) equipment or technology validation in relevant environment*	*Engineering-scale prototypes are tested in a relevant environment. This represents a major step up in a technology's demonstrated readiness. Examples include testing an engineering-scale prototype with a range of potential operating conditions. TRL 6 begins true engineering development of the technology as operational equipment. The major difference between TRL 5 and TRL 6 is the step up from laboratory scale to engineering scale. The prototype should perform all the functions that will be required of the operational equipment. The operating environment for the testing should closely represent the actual operating environment. Parts and maintenance are not available because each piece of equipment is custom-built.*
Technology Development	*TRL 5*	*Laboratory-scale, similar system validation in relevant environment*	*The basic technological components are integrated, so that the equipment configuration is like (matches) the final application in almost all respects. The major difference between TRL 4 and TRL 5 is the increase in the fidelity of the equipment and test environment to the actual application. The system tested is almost prototypical.*
Technology Development	*TRL 4*	*Component and/or system validation in a laboratory environment*	*The basic technological components are integrated to establish that the pieces will work together. This is relatively low fidelity compared with the eventual complete equipment. TRL 4 through TRL 6 represent the bridge from scientific research to engineering. TRL 4 is the first step in determining whether the individual components will work together as a system.*

Table RTC-2: Technological Readiness Levels (TRLs)			
Relative Level of Technology Development	***TRL***	***TRL Definition***	***Description***
Research to Prove Feasibility	*TRL 3*	*Analytical and experimental critical function and/or characteristic proof of concept*	*Active research and development is initiated. This includes analytical studies and laboratory-scale studies to physically validate the analytical predictions of separate elements of the technology. Components of the technology are validated, but there is no attempt to integrate the components into a complete system. Modeling and simulation may be used to complement physical experiments.*
Basic Technology Research	*TRL 2*	*Technology concept and/or application formulated*	*Once basic principles are observed, practical applications can be invented. Applications are speculative and there may be no proof or detailed analysis to support the assumptions.*
	TRL 1	*Basic principles observed and reported*	*This is the lowest level of technological readiness. Scientific research begins to be translated into applied research and development.*

Source: Port of Oakland 2019

Full commercial availability, which requires achievement of TRL 9, includes the following additional factors:

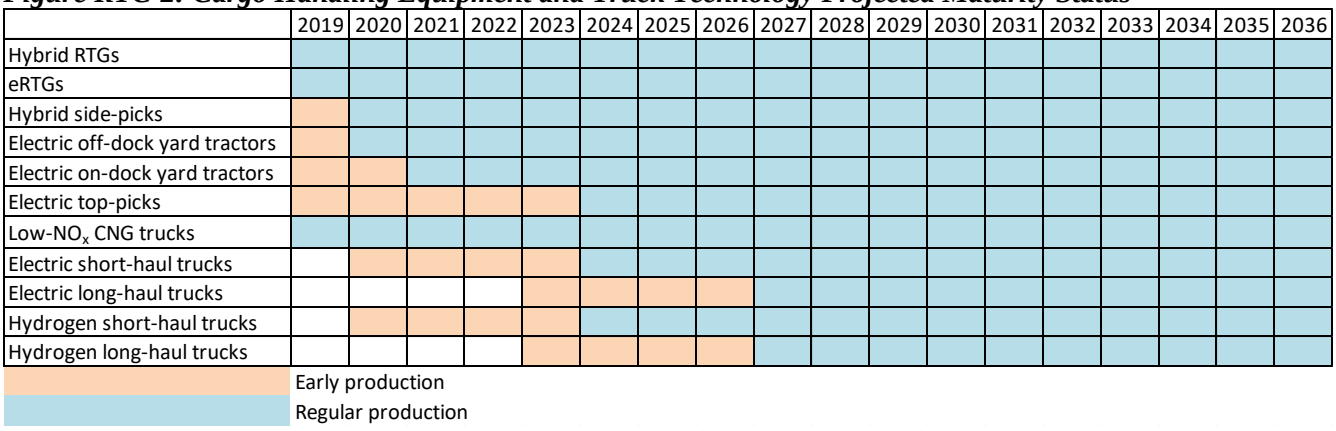
1. *Parts are readily available.*
2. *Skilled maintenance and service facilities are available nearby (equipment is locally serviceable).*
3. *Warranty coverage is comparable to conventional equipment.*
4. *Equipment can be manufactured at the same volumes and on the same time scale as conventional diesel equipment.*
5. *Day-to-day operating costs are in line with conventional equipment (no more than 120% of conventional equipment).*
6. *Costs are comparable to conventional equipment.*
7. *The equipment has a normal life span (similar to that of conventional equipment).*

Commercial availability is directly linked to financial feasibility; as specific types of equipment mature, their costs decrease.

The Port will continue to work with its tenants and OEMs to help evaluate zero-emissions equipment. The Carl Moyer and ZANZEFF grants discussed previously will help assess the operational feasibility of several types of equipment. The Port is also facilitating BYD's pilot testing of 10 zero-emissions drayage trucks.

Although zero-emissions technology is progressing rapidly, it is difficult to predict the rate at which zero-emissions technology will mature to become commercially available and operationally feasible. As part of the Equipment Operations and Cost Assessment to Assist with Electrical Infrastructure Planning contained in Appendix F, the Port developed a cost assessment that included the likely timing of the commercial availability of zero-emissions equipment. The projected maturity status of this equipment is shown in Figure RTC-2.

Figure RTC-2: Cargo Handling Equipment and Truck Technology Projected Maturity Status



Source: Port of Oakland (Port 2018b)
CNG = compressed natural gas
NOx = oxides of nitrogen

The Port will continue to track the development of the equipment, including its feasibility and the pilot studies being conducted as part of the SPBP technology advancement program. Information on technological developments will be included in the annual reports.

Revisions:

Appendix B of the Revised Draft provides a more detailed description of the current state of zero-emissions and reduced-emissions technology for the five major equipment sectors. The 5-year update of the Plan will include updated information about the state of zero-emissions technology. In addition, the description of the commercial availability criterion included in the feasibility criteria used to screen Implementing Actions has been expanded and clarified (see Appendix D of the Revised Draft). The NTAP contained in the Revised Draft has been revised to include three equipment- and infrastructure-based goals and to reflect the findings of the Equipment Operations and Cost Assessment to Assist with Electrical Infrastructure Planning (see Appendix F of the Revised Draft).

Comments on the Revised Draft

Comments on the Revised Draft pertaining to the status of zero-emissions technology focused on the technological feasibility of electric drayage trucks. Comments included the recommendation that the Port consider the SPBP *Clean Air Action Plan Draft 2018 Feasibility Assessment for Drayage Trucks* (SPBP

2018), and the assertion that that feasibility assessment found that electric drayage trucks could meet the average shift and daily range requirements of drayage routes. The commenters further noted that the North American Council for Freight Efficiency projects that battery-electric trucks will achieve maximum daily range by 2030, so that a goal of having 100% zero-emissions drayage trucks should be feasible from an operational perspective.

The comments also requested that the Plan be updated to provide a detailed analysis of the feasibility of requiring drayage trucks serving the Port to be zero-emissions trucks (no target year for this requirement was proposed in the comment) and that the revised analysis provide range requirements for trucks serving the Port, including the number of short-haul and long-haul trucks and their operational requirements. A conflicting comment noted that grid-powered battery electric trucks have not yet been commercialized or proven to be a viable alternative in goods movement, nor are they currently superior in carbon reductions based on the current state of the electrical grid and its use of fossil fuels.

Response to Comments on the Revised Draft

Discussion:

These comments all center on the feasibility of using electric drayage trucks to serve the Port. Appendix F provides an assessment of the current state of electric drayage truck technology. The Port also reviewed and considered the SPBP *Clean Air Action Plan Draft 2018 Feasibility Assessment for Drayage Trucks* (SPBP 2018).

The Port's conclusion, based on its assessment and its review of the SPBP *Clean Air Action Plan Draft 2018 Feasibility Assessment for Drayage Trucks*, is that electric drayage trucks are currently at a TRL 6 to TRL 7; full commercial availability corresponds to TRL 9 (see the discussion of comments pursuant to this topic in the response to comments on the Draft Plan, above). The Port is supporting the demonstration testing of electric drayage trucks by providing infrastructure to support the 10 trucks to be tested by Shippers Transport Express. Pursuant to the MOU between the Port and the Port of Long Beach regarding the ZANZEFF grant received by the Port of Long Beach, dated February 7, 2019, the Port committed to designing and constructing ten charging outlets that are compatible with the ten electric drayage trucks slated to serve the Shippers Transport Express facility and to provide $1.25 million in matching funds to provide the necessary charging infrastructure. The Port is also collaborating with tenants who will be testing trucks for BYD.

Regarding the comment on the SPBP *Clean Air Action Plan Draft 2018 Feasibility Assessment for Drayage Trucks* (SPBP 2018), most drayage trucks are used both in long-haul and short-haul service, and most trucks are operated by independent owner-operators or small businesses. These truck owners cannot afford to limit their operations to short-haul service. Consequently, the capacity to meet average shift and daily range requirements does not provide sufficient operational flexibility for most drayage truck owners. Also, many

truck owners purchase used trucks. Thus, even if electric trucks were to reach operational and financial parity with diesel trucks by 2030, it is highly unlikely that all trucks in the Port's Secure Truck Enrollment Program would turn over by 2035. It is conceivable that some larger truck fleets could set aside a limited number of trucks for short-haul service. However, even larger trucking operations require flexibility in their fleet, meaning that most of their trucks would also have to be able to meet the maximum range requirements. Finally, it is correct that the current electrical power mix in California includes a substantial quantity of power based on fossil fuels generation. However, State regulations and executive orders from the Governor have clearly put California on a path to 100% renewable electricity.

Revisions:

The Port included relevant information from the SPBP *Clean Air Action Plan Draft 2018 Feasibility Assessment for Drayage Trucks* in Appendices B and F. The Port has added an Implementing Action, Detailed Drayage Truck Feasibility Assessment, to the Suggested Actions in Table C-3 of Appendix C: Suggested Actions.

NEW TOPIC #10: INFRASTRUCTURE

Comments on the Revised Draft

The Port received many comments regarding infrastructure for a zero-emissions Seaport. Commenters expressed the desire for accelerated infrastructure development. Some suggested that the Port should build infrastructure in advance of a demonstrated need to create an incentive for tenants and others to invest in zero-emissions equipment. They also pointed out that building the necessary infrastructure in advance of regulations would increase the amount of incentive funding that would likely be available to support infrastructure projects. Several comments recommended that the Port study and invest in clean, distributed energy generation as part of its infrastructure development planning. In addition, the commenters noted that some types of equipment, such as zero-emissions OGVs or long-haul drayage trucks, are unlikely to be electric, and indicated that the Port should begin long-term planning for non-electricity zero-emissions fuels such as hydrogen or ammonia.

Response to Comments on the Revised Draft

Discussion:

Infrastructure is a critical component of the Port's transition to a zero-emissions Seaport. Four factors govern the identification of infrastructure projects: (1) the Port's planning studies for electrical infrastructure (e.g., the Maritime Power Capacity Study for Terminal Electrification), (2) tenant needs, (3) availability of grant or incentive funding, and (4) regulatory requirements. Implementation of all Port projects follows the Port's standard procedures. Projects are identified, scoped, incorporated into the budget, taken to the Board for consideration and recommended approval and if approved, implemented.

The timeframe for implementation scales to the scope of the undertaking. The Port will seek opportunities for early action (see Guiding Principle #3, Early Wins). For projects that do not require major infrastructure upgrades, and have funding and an available power supply, and where tenants have committed to specific equipment purchases, implementation will typically be quick. In the case of tenant-sponsored projects, tenants will use their own organization's project delivery procedures.

The Port appreciates the commenters' suggestion that it build its own clean energy supply through distributed generation as well as the recommendation to begin advance planning for other zero-emissions fuels. For specific distributed energy generation projects, the Port will work with the specific tenant to conduct the necessary studies. The open land within the Seaport Area is required for container operations.

The Port will reconsider the need to plan for other zero-emissions fuels as part of the Plan Update in 2023. As described in Appendix C: Suggested Actions, at the present time, "green" hydrogen (i.e., hydrogen produced by electrolysis using GHG-free electricity) is approximately four to five times as expensive on a per-vehicle-mile basis as diesel, and there is very limited capacity for production of green hydrogen. Conventionally produced hydrogen has a carbon intensity equal to or as much as 50% higher than that of petroleum diesel, depending on how and where it is produced. As also noted in Appendices C and F, hydrogen-powered on-road equipment is lagging the development of battery-electric on-road equipment. Alternative fuel OGVs are in the conceptual stage, except for some Jones Act carriers,[13] which are starting to use liquefied natural gas. Finally, while hydrogen-powered ferries and non-tug harbor craft are beginning to be tested in commercial applications, the Port does not directly provide fuel.

Revisions:

The Final NTAP includes two new infrastructure-related Suggested Actions: (1) Replace Electrical Infrastructure that is Beyond its Serviceable Life and (2) Port Electrical Grid Reliability and Capacity Upgrades. Appendix C provides all Suggested Actions.

NEW TOPIC #11: PORT STAFFING AND RESOURCES

Comments on the Revised Draft

Commenters suggested that the Port perceives staffing levels as a limitation to pursuing aggressive action. They requested that the Port describe the staffing levels required to achieve the transition to zero emissions. Commenters would like shortfalls in staffing to be identified and suggest that the Port hire additional staff to fill those needs.

[13] The Jones Act imposes requirements on vessels carrying goods between U.S.ports.

Response to Comments on the Revised Draft

Discussion:

As part of developing the Plan, the Port analyzed available capacity and found that it needed to tailor the NTAP to available resources within the Port's overall operational needs. 2020 and Beyond Plan projects identified in the Plan will be implemented using the same process as all other Port projects.

The Port's Environmental Programs and Planning (EP&P) division will take the lead in Plan development, project management, and Plan implementation. Organizationally located within the Port's Engineering Department, EP&P is responsible for, among other matters, air quality, truck management, stormwater, legacy contamination, hazardous materials, permitting, California Environmental Quality Act compliance, reporting, and all the contracting associated with monitoring and testing contaminated sites within the Seaport, the Airport, and commercial real estate properties. Implementing the Plan will require extensive coordination between EP&P and other departments as well as with specialized technical consultants and stakeholders.

The Port identified 150 discrete tasks in the Plan and organized these tasks into 10 broad categories, which are listed below in alphabetical order:

- Advocacy
- Coordination
- Engineering Studies and Design
- Grants, Incentives, and Funding
- Monitoring and Reporting
- Plan Management
- Screening, Feasibility, Implementation of Implementing Actions
- Stakeholder Engagement
- Technology Tracking
- Workforce Development

Within these categories, the Port identified six critical functions that are essential to successfully implementing the Plan:

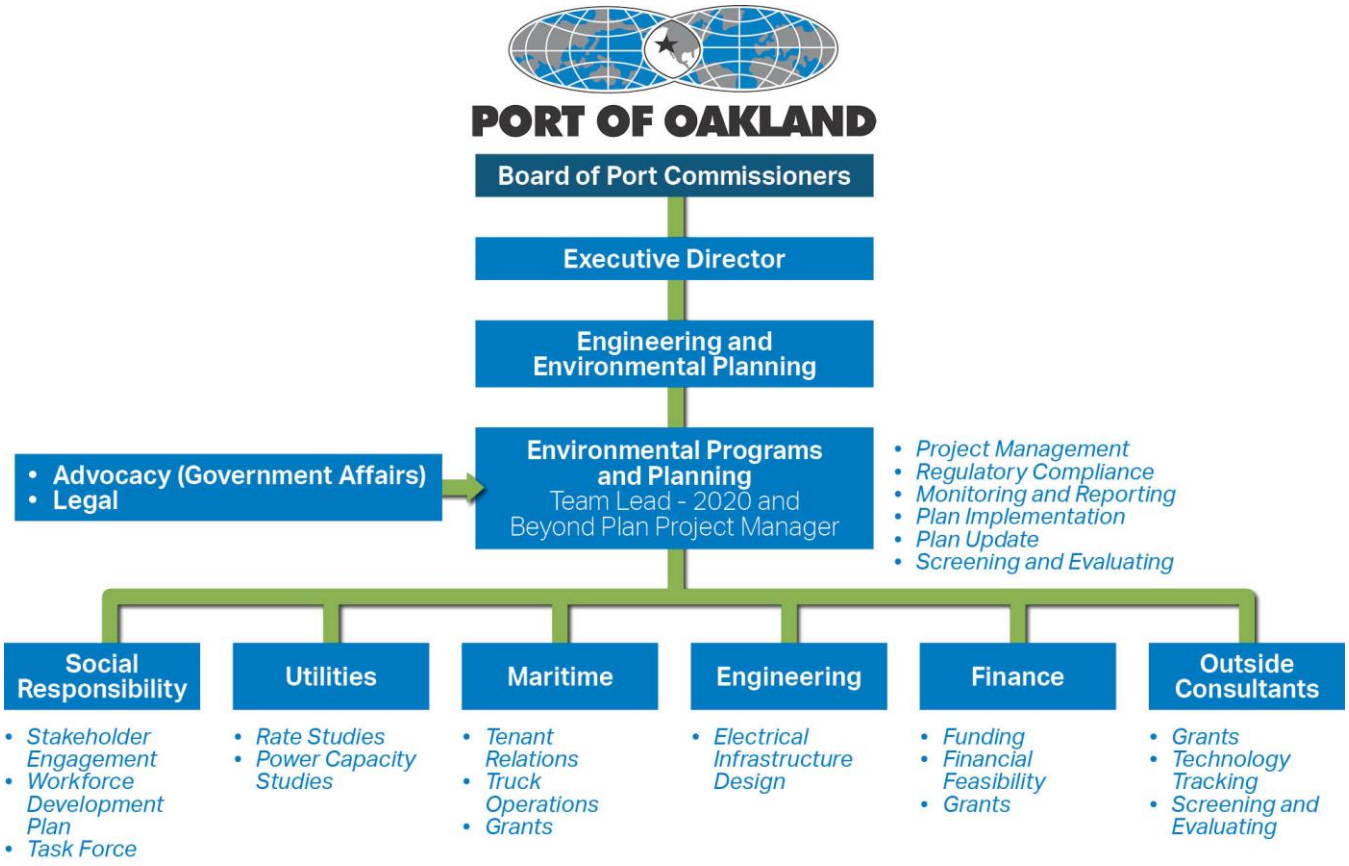
1. Plan management
2. Utilities demand and infrastructure planning
3. Electrical engineering for electrical system and charging infrastructure
4. Grant-making and grant compliance
5. Stakeholder engagement
6. Trucks coordination

The Port anticipates that 75% of the effort on the Plan will be spent on these six critical functions. The Port will use Port staff as much as possible and intends to rely on outside consultants to make up any shortfall in Port resources.

Most notably, to supplement Port staff resources, the Port anticipates hiring specialized technical consultants to help with stakeholder engagement, grants and incentives, technology tracking, screening and evaluation of Implementing Actions, and engineering studies and design.

The Port envisions structuring the implementation team according to the conceptual organization chart in Figure RTC-3.

Figure RTC-3: Implementation Team Structure



Source: Port of Oakland 2019

Revisions:

The Final Plan has been updated to describe the proposed organizational structure.

NEW TOPIC #12: TRUCK PARKING AND CHARGING

Comments on the Revised Draft

Commenters identified truck parking and the related issue of providing charging stations for future electric drayage trucks within the Port area. Many of the comments pertained to drayage trucks operated by non-tenants or not domiciled at the Port. Commenters noted that drayage truck charging stations were being planned for some tenants, and wondered whether public trucks could use the same charging infrastructure.

Commenters asked about how and where the Port was planning to provide truck parking, truck charging, and truck services. Commenters requested that the Plan identify truck parking space needs and identify locations to satisfy those needs. Some commenters suggested using the Oakland Army Base (OAB) property (i.e., planning for truck parking in conjunction with the City of Oakland [City]), while others suggested using non-OAB Port property. A subset of comments asked that the Port study the demand for charging stations and move proactively to address the anticipated demand rather than respond to demand. One comment letter suggested that the Port form a working group to study electrical supply and charging infrastructure. Commenters would like the Port to plan so that the electric supply to the Port and the associated infrastructure are adequate to meet future demand.

Response to Comments on the Revised Draft

Discussion:

Truck Parking Areas

The Port is aware of the concerns regarding the supply of truck parking areas. In 2019, there were 75 acres within the Seaport in temporary use for overnight truck parking and container staging. However, this acreage will decline as areas currently being used for truck parking gradually and foreseeably shift to core maritime uses. Core maritime uses are those that must be located near the water for the purpose of moving cargo across the wharf. The Port will provide and accommodate as much parking for as long as it can until the land is needed for core maritime uses.

The Port will maintain its long-term commitment to provide 15 acres of dedicated ancillary maritime services involving trucking, which includes truck parking and truck services at the Seaport.

During the normal course of operations, the Port will also investigate a range of options for truck parking. Options include multi-level structure parking, limiting of overnight parking lots to “bobtails” only (more trucks can be accommodated if containers and chassis are not attached), and measures to increase operational efficiencies at the marine terminals to reduce the demand for staging containers and chassis overnight.

The Port estimates that there is adequate truck parking inventory through 2020 and constrained inventory through 2030. By 2035, the Port expects to have no more than the currently committed 30 acres dedicated to ancillary maritime services involving trucking, which includes truck parking and truck services (15 acres on Port property and 15 acres on City-owned property within the OAB). It is important to note that marine terminals, warehouses, transload facilities, rail yards, and the proposed new energy and travel center located primarily on the OAB all accommodate truck parking as part of their normal operations.

Electric Truck Charging for Non-Tenants

This response focuses specifically on the issue of future charging infrastructure for drayage trucks owned by non-tenants. For a broader discussion of how infrastructure supporting a zero-emissions Seaport is developed and built, see the response to Topic #10, Infrastructure. Topic #10 includes the process for building out infrastructure and enabling electric equipment charging on tenant properties. Briefly, infrastructure development at the Port is driven by one of four mechanisms:

1. Response to tenant demand
2. Grant funding opportunities
3. Response to regulations
4. Implementation of a master plan

Construction of electric truck charging stations will occur through one or more of these mechanisms.

As discussed in Appendix C: Suggested Actions, each manufacturer of electric equipment currently has its own charging standards. Although these standards appear to be converging, as of yet there is no universal architecture and no governing software that would be suitable to charge all future models of electric trucks. Furthermore, although battery technology is expected to continue to improve, both battery capacity and battery charging rates for future batteries are unknown. It is impossible to develop a universally suitable drayage truck charging station until these parameters become more stable and unified.

For now, truck owners will need to provide charging for their own trucks. That is, they will need to install a medium-speed charger at their home base location to charge their vehicles, just as most light-duty electric vehicle owners currently do, and charge their vehicles overnight or when not in use. OEMs may provide charging facilities for heavy-duty vehicles in the same way that light-duty electric vehicle dealerships currently provide high-speed charging for their clients as a customer service feature.

Longer term, it is highly likely that a statewide network of public electric truck charging stations will develop as electric truck technology advances and more truckers purchase these types of trucks. For example, a coalition of utilities from California, Oregon, and Washington has started a study on providing viable electric trucking infrastructure from Canada to Mexico. Called the West Coast Clean Transit

Corridor Initiative, the study is focused on freight transportation along Interstate 5, the north-south backbone of freight transportation on the West Coast.

The statewide network will need to include public charging stations in the Bay Area, the Central Valley, and points in between. The Port will work with Port tenants to enable drayage truck charging at tenant locations.

The SPBP *Clean Air Action Plan Draft 2018 Feasibility Assessment for Drayage Trucks* (SPBP 2018) provides more information about the current status of truck charging infrastructure. It identifies the lack of standards for outlets and software, the physical space requirements, the unknown duration of charging, and the rapid rate of advancement in battery technology as some of the biggest challenges for developing truck charging infrastructure in today's environment.

The Port will continue to seek and pursue grant opportunities for installing truck charging infrastructure. Some examples of grants for infrastructure include:

- The Alternative and Renewable Fuel and Vehicle Technology Program administered by the Clean Energy Commission has solicited two rounds of grants for Advanced Freight Infrastructure Deployment. The Port applied for a grant but was not successful.
- CARB has a grant program for zero- and near-zero-emission freight facilities projects (the Port worked with the Port of Long Beach, which successfully obtained a grant for this program).

Revisions:
Appendix B: Background discusses the considerations associated with public charging infrastructure.

NEW TOPIC #13: APPENDIX F – EQUIPMENT OPERATIONS AND COST ASSESSMENT TO ASSIST WITH ELECTRIC INFRASTRUCTURE PLANNING

Comments on the Revised Draft

Comments on Appendix F focused on both the methodology and the assumptions made in the assessment. Several comments also expressed appreciation for the information in Appendix F. Several commenters questioned the cost assumptions and the assumptions regarding the rate of electric drive cost reductions. Commenters also noted that the cost impact of newly available LCFS credits available to zero-emissions and near-zero-emissions equipment operators was not incorporated in the assumptions. Two comment letters questioned the use of a 1-year payback period in the assumptions regarding cost parity.

Response to Comments on the Revised Draft

Discussion:

Many of the technologies required to transition the Port to fully zero-emission operations are rapidly developing through a series of demonstration projects. Reflecting the planning assumptions and overall approach of the Plan, Appendix F: Equipment Operations and Cost Assessment to Assist with Electric Infrastructure Planning focuses on identifying the best near-term technologies for practical implementation and additional near- and intermediate-term opportunities. Appendix F also focuses on maintaining the flexibility to identify and implement new Implementing Actions as they are proven feasible. The conclusions of the SPBP *Clean Air Action Plan Draft 2018 Feasibility Assessment for Drayage Trucks* (SPBP 2018) regarding the feasibility and commercial availability of electric drayage trucks are very similar to those in Appendix F.

Port staff appreciate CARB and West Oakland Environmental Indicators Project for providing information on the recent LCFS program amendments, which now allow the generation and sale of credits from the operation of electric yard tractors (the equipment analyzed in Appendix F) and other seaport electric equipment. The amendments to the LCFS regulations were issued on January 4, 2019. The development of the Zero-Carbon Intensity Electricity Lookup Table Pathway for other electric equipment transportation applications (including seaports) does not allow quantitative analysis similar to the costs for HVIP. Additionally, the administrative burden to participate in the program is still unknown, as is the future value of credits.

Requirements for cost parity of equipment were discussed at the Task Force meeting on September 26, 2018 (Task Force Meeting #4). At this meeting, industry representatives indicated that return on investment for equipment purchases needed to be "immediate" or "within 12 to 24 months." Nonetheless, the Port provided an annualized cost, assuming an 8-year period as a basis for comparing the cost-effectiveness of zero-emissions equipment with conventional diesel equipment. That comparison shows that the cost of a yard tractor only, assuming HVIP vouchers with the disadvantaged communities credit, would be less on an annualized basis than a comparable diesel truck. However, the comparison does not include the cost of charging infrastructure, and it assumes that the electric yard tractors would provide the same hours of service per year as a conventional, diesel-powered yard tractor.

Revisions:

Appendix F was revised to address the potential beneficial impact of LCFS credits to increase the financial feasibility of electric and hybrid equipment. In addition, Appendix F now includes an expanded discussion of the technological status of battery-electric top-picks and relevant information from the SPBP *Clean Air Action Plan Draft 2018 Feasibility Assessment for Drayage Trucks* (SPBP 2018).

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SECTION 2—RESPONSES TO INDIVIDUAL COMMENTS

This section presents the individual comments and comment responses. Each comment was assigned a unique comment number that identifies the source of the comment and a sequential number for comments from that source. The comments and responses are contained in tables RTC-3 and RTC-4. For each comment, the tables provide the unique comment number, the date received, the source, the Port representative who received the comment, and whether there are any relevant attachments that were included with the comment submissions. Table RTC-3 presents the comments in the order in which they were received. For days when multiple comment letters were received, the comments are organized alphabetically by the commenter name. Table RTC-4 presents the comments based on comment topic (the comment topics are shown in alphabetical order).

Table RTC-3: Responses to Comments on the Revised Draft Seaport Air Quality 2020 and Beyond Plan (December 14, 2018), by Date and Commenter Affiliation									
Comment Number	**Comment Received Date**	**Comment Receipt Type**	**Comment Received by**	**Affiliation**	**Name**	**Attachments**	**Comment**	**Comment Category**	**Response**
TF-54	10-Jan-19	Comment Card	Khamly Chuop	AB Trucking	Bill Aboudi	None	Port needs to have a lead role to install ZE plugs for all equipment installed before 2025, most tenants are on month to month. Cost of permits,	Infrastructure	See response to Comment Topic #10: Infrastructure.
TF-55	10-Jan-19	Comment Card	Khamly Chuop	Pinnacle Ag/ CVAG	Paul Konzen	None	How do I connect with local labor pools	Workforce Development	The Port partners with training providers by providing direct resources and/or direct referrals to partner agencies. Port employers are often referred to specific workforce and training program partners such as Cypress Mandela Training Center, Rising Sun Center for Opportunity, or West Oakland Job Resource Center. Other local labor pools can be found by contacting the local Workforce Development Board.
TF-56	10-Jan-19	Comment Card	Khamly Chuop	WOEIP/ UC Berkeley	Lily MacIver	None	Workforce Development - it would be helpful if a plan to measure and track progress towards local employment, and gaps in resources, were outlined.	Workforce Development	As part of the Port's continued commitment to supporting local employment, in Spring 2019 (March 26, 2019) the Port officially launched the Jobs and Workforce Development Stakeholders Group of the Oakland Army Base (OAB) Jobs Policy. This group will be responsible for implementing, monitoring and tracking of jobs and job placement of local residents, which prioritizes West Oakland job seekers. Additionally, with employer input, the Port will need to know what new skills will be required, and the level of impact these needed skills will have on specific job categories. The Port will also need an overview of the employer's current workforce to develop a measurable plan.
TF-57	10-Jan-19	Comment Card	Khamly Chuop	WOEIP/ UC Berkeley	Lily MacIver	None	Workforce Development - incentives for West Oakland residents to enter job training at community colleges are important. They might take the form of the Port holding a certain number of jobs for local workers, providing scholarships, or helping to find waivers for college fees.	Workforce Development	The Port is currently funding two West Oakland training providers for Port and Port-related employment opportunities: Rising Sun Center for Opportunity and West Oakland Job Resource Center. The Port also supports scholarship programs for both high school and college students, such as the Marcus Foster Scholarship and the Port of Oakland Asian Employees Association (AEA) Scholarship programs. In addition, the Port has added a new Suggested Action, Incentives for College or Job Training, to Table C-3: New Suggested Actions in Appendix C.
TF-58	10-Jan-19	Comment Card	Khamly Chuop	PMSA	John Berge	None	Appreciate the Port's outreach to tenants to assess feasibilities. The Port of LA and LB have not taken such extensive outreach.	Support/ Appreciation	Comment noted.
TF-59	10-Jan-19	Comment Card	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	None	Recommend an effort (staff or consultant) to regularly track price and availability of electric transport equipment. Costs are likely to fall quickly and outdated cost assumptions could result in poor decision-making.	Financial Feasibility	See the response to Comment GSPP-69.
TF-60	10-Jan-19	Comment Card	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	None	Recommend forming workgroup to establish system to identify high emission trucks entering Port and to notify those truck owners to repair as condition of continuing to enter Port. It should be an automated system to reduce staff costs. CARB funding could be used for capital costs but Port cooperation is important.	Implementing Actions	See the response to GSPP-102.
TF-61	10-Jan-19	Comment Card	Khamly Chuop	Peralta Community College District	Jowel C. Laguerre	None	The port ought to serve as a convener between the operators and education agencies - support an environment that supports a trained workforce. Be persistent. Don't let our agencies off the hook.	Workforce Development	The Port is engaged with the local community college district to promote job training and education for West Oakland residents.
CE-18	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Thank you for considering additional comments on the Port of Oakland Seaport Air Quality Plan (AQP).	Support/ Appreciation	Comment noted.

Table RTC-3: Responses to Comments on the Revised Draft Seaport Air Quality 2020 and Beyond Plan (December 14, 2018), by Date and Commenter Affiliation

Comment Number	Comment Received Date	Comment Receipt Type	Comment Received by	Affiliation	Name	Attachments	Comment	Comment Category	Response
CE-19	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Our comments issued on the Draft AQP made the case for the Port of Oakland to include near-zero truck technologies that are certified to the California Air Resources Board's (CARB) most stringent optional low-NOx standard of 0.02 g/bhp-hr as an immediate strategy to reduce harmful port-related emissions from heavy duty trucks. The comparative benefits that near-zero technologies provide compared to zero-tailpipe emission strategies include: • An optional low NOx CARB certification that delivers 90% less NOx emissions than the current EPA and CARB heavy duty engine standard and an in-use performance according to UC Riverside that found NOx emission reductions at 95% or 0.01 g/bhp-hr; • A strategy that is 99% cleaner than the diesel trucks currently operating in and around the Port based on the fleet's average model year; • 70% to well over 100% lower greenhouse gas emissions compared to conventional diesel when powering a near-zero truck with renewable natural gas (RNG) - a fuel that can deliver up to a negative 250 carbon intensity score; • 90% quieter than diesel engines; • Commercially available now to deliver reliable emissions relief today; • Fueling infrastructure already in place with plans to further increase statewide fueling network as the market grows; and, • Far lower cost and more cost effective than any other competing technology with comparable performance.	NZE	Comment noted. Low nitrogen oxide (NOx) natural-gas-powered trucks would indeed provide substantial reductions in NOx emissions; and, if powered by renewable natural gas, would also provide substantial reductions in greenhouse gas emissions. However, there are currently no compressed-natural-gas (CNG) or liquified-natural-gas (LNG)-powered trucks in the Port's Secure Truck Enrollment Program (i.e., the registry of trucks allowed to access the marine terminals [STEP]). The Port supports market-driven adoption of technology. The Port has added the new suggested Implementing Action, Include Near-Zero Truck Technologies Certified to CARB's Optional Low-NOx Standard, in Table C-3: New Suggested Actions of Appendix C.
CE-20	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	The most recent version of the Air Quality Plan (AQP) appears to identify grid-powered battery electric truck technologies as a singular solution to port-related truck pollution even though such a strategy has yet to be commercialized, proven to be a viable alternative in goods movement, or superior in carbon reductions based on the current state of the electrical grid and its use of fossil fuels.	ZE vs NZE	Correct, the Plan assumes, based on the current state of zero-emissions technology, that electric equipment will be the most likely technology for most land-based equipment.
CE-21	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Given the substantial impacts of port-related pollution on neighboring communities and the region at large, it would be advisable to include all advanced clean strategies within the AQP that can offer immediate and deep criteria pollutant and carbon emissions reductions for port operations as soon as possible.	NZE	The Final Plan retains flexibility to accommodate a variety of zero-emissions technologies. The Port expects that adoption of zero-emissions technology will be both market-driven and regulation-driven.
CE-22	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	By doing so, the Port Authority will have the ability to help mitigate port-related truck pollution if electric trucks are delayed or fail to meet commercially viable operations.	NZE	Comment noted. The Port will rely on market-driven demand to determine the interest in various types of hybrid and zero-emissions technologies on the pathway to zero emissions. Should certain types of technological innovations fail to mature or perform, the market will respond accordingly. New regulations may also create technology drivers.
CE-23	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Certainly the Port Authority would be better positioned as a good neighbor by taking proactive measures now that prevent the surrounding port communities from being further subjected to harmful air pollution for another decade.	NZE	See the response to Comment C-22.
CE-24	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Failure to implement an immediate strategy will also leave climate pollution unabated despite clear indications that our oceans are warming at a faster rate than predicted causing sea level rise that could impact future port operations.	NZE	Comment noted. The Port agrees that responding to climate change is an urgent matter. Presently, given the distribution of trucks in the Port's STEP, which does not include any CNG- or LNG-fueled trucks, the Port believes that its focus on electric equipment as the pathway to zero emissions is likely to yield the most benefit in the shortest amount of time.

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CE-25	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Precious time will be lost and tens, if not hundreds of millions, of public dollars could be wasted, not to mention the external public health costs to our communities. Further, the Port of Oakland could be put at a competitive disadvantage to other ports that have more diversified strategies in their plans to mitigate their emissions on a more immediate *basis* (i.e., the San Pedro Bay Ports' Clean Air Action Plan).	NZE	Comment noted. See the response to Comment CE-24.
CE-26	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Placing the Port of Oakland's clean air future into one technology basket is risky and discourages port businesses from implementing a range of technology options that could meaningfully reduce their environmental footprint sooner and less expensively.	ZE vs NZE	The Plan allows for a variety of technology platforms. The Port will continue to track the development of zero-emissions technologies, and assumes that the market will serve as a driver for the adoption for preferred (most cost-effective and reliable) technologies. Preferred technologies are also likely to be influenced by future regulatory requirements.
CE-27	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Rather than prematurely picking a technology winner, the Port should embrace performance-based standards that support both zero and near-zero emission strategies that are powered by renewable fuels.	Targets/ Goals	See the response to Comment CE-19.
CE-28	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Picking a future winner with very little data to assure the success of such a plan under any reasonable timeline is a missed opportunity for immediate emission reductions that could substantially benefit the Port, the local communities, and the Bay Area today.	ZE vs NZE	See the response to Comment CE-26.
CE-29	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet: Make Difference with Natural Gas Heavy-Duty Trucks (by Natural Gas Vehicles for America [NGVAmerica])	The enclosed fact sheet provides thoughtful and compelling information that supports near-zero playing a role in helping the Port of Oakland achieve results that clean the air now without breaking the bank or requiring massive infrastructure investments.	NZE	Comment noted.
CE-30	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	We urge the Port of Oakland to rethink its plan by incorporating a strategy that encourages and supports both near-zero and zero tailpipe emission technologies in the AQP.	ZE vs NZE	The Port is committed to a pathway to zero emissions, and this vision is broadly supported by the stakeholders, including community-based organizations, regulatory agencies, and industry. The Port will work diligently to encourage adoption of zero-emissions technologies, although the Plan certainly allows for a variety of technologies, and some Port tenants and truckers may choose to use a near-zero-emissions technology as an interim step on the pathway to zero emissions. Also, the Port has added a new suggested Implementing Action, Include Near-Zero Truck Technologies Certified to CARB's Optional Low-NOx Standard, in Table C-3: New Suggested Actions of Appendix C.
CPP-22	16-Jan-19	email	Surlene Grant	CenterPoint Properties	Ryan Oley	None	1. How will the Port determine how grants should be distributed amongst tenants or which tenants they assist in receiving incentives?	Funding	The Port will work with specific tenants on cost-effective grants when staff resources and appropriate grant opportunities are available. "Distribution" of grant and incentive funding would only be a consideration when several tenants join together with the Port to pursue specific funding. In that case, specific allocations would be made during the development of the grant proposal.
CPP-23	16-Jan-19	email	Surlene Grant	CenterPoint Properties	Ryan Oley	None	2. In terms of reporting, how will the term “Periodic” be defined (e.g. semiannual, biennial, etc.)?	Reporting	Tenants will typically be asked to provide input on an annual basis so that Port staff can reflect that input in its annual report to the Board of Port Commissioners.
CPP-24	16-Jan-19	email	Surlene Grant	CenterPoint Properties	Ryan Oley	None	If EI’s are completed by the Port, what effort will be required by tenants e.g. recordkeeping requirements, document submittals, etc?	EIs	As a landlord Port, the Port is in regular contact with its tenants. Tenants are asked to provide an inventory of their equipment, estimated hours of use for each piece of equipment (cumulative use and use for the given year or reporting period), and an estimate of their total fuel use.

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CPP-25	16-Jan-19	email	Surlene Grant	CenterPoint Properties	Ryan Oley	None	3. Some efficiency measures may have a "cost to tenants" – are any of these measures mandatory and have they been scoped out for the Near-Term Action Plan?	NTAP	Any efficiency measures that the Port would require of tenants would be reflected in development and lease agreements.
CPP-26	16-Jan-19	email	Surlene Grant	CenterPoint Properties	Ryan Oley	None	4. To help tenants minimize disruption, are there any plans to expedite permitting/regulatory processes for activities required by the tenants as part of the 2020 and Beyond Plan?	Plan Implementation	Port tenants are responsible for securing required regulatory permits for their operations and equipment. Where appropriate, the Port supports Port tenants in securing required permits.
CARB-51	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Thank you for developing and releasing a Revised Draft Seaport Air Quality 2020 and Beyond Plan (Revised 2020 Plan), and providing California Air Resources Board (CARB) staff and the public a second opportunity to comment on this pivotal planning document for the Port of Oakland (Port). We appreciate the numerous improvements to the Plan and the second public review process,	Support/ Appreciation	Comment noted.
CARB-52	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	and continue to urge the Port to commit to additional transformative actions beyond those listed in the Revised 2020 Plan.	Port commitments	See the response to Comment BAAQMD-23.
CARB-53	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Those actions, as described in this letter, are critical to protect local communities from exposure to harmful air pollution and should be included in the Plan prior to adoption.	Plan Revisions	The Port compiled all new Suggested Actions included in comment letters (or attachments to comment letters) on the Draft or Revised Draft 2020 and Beyond Plan in Table C-3: New Suggested Actions in Appendix C.
CARB-54	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Since we submitted our initial comment letter on the Draft 2020 Plan (attached), CARB's governing board identified West Oakland as one of the 10 initial communities for focused action pursuant to Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017). As a selected community with high cumulative exposure burden to air pollution, more aggressive near-term actions to improve public health are critical to dovetail with the five-year planning horizons for West Oakland.	AB 617	See the response to Comment CARB-56.
CARB-55	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Echoing the comment from Ms. Margaret Gordon of the West Oakland Environmental Indicators Project during the January 10, 2019 Task Force Meeting, we agree there needs to be merging of the AB 617 effort for West Oakland and the Revised 2020 Plan to achieve "mitigations for workers and residents nearby the Port."	AB 617	See the response to Comment CARB-56. Coordination between the Port and the West Oakland Clean Air Action Plan (WOCAAP) Steering Committee includes both the Port's 2020 and Beyond process and the West Oakland Truck Management Plan (TMP) process. See also the response to Comment Topic #2: Community Health Risk and AB 617.
CARB-56	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	The Port can position itself, its tenants, and its transportation operators, to leverage funds and planning efforts to improve air quality and system efficiencies in a way that serves the community and the Port's bottom line.	AB 617	The Port is committed to the improving air quality in West Oakland through participation in the WOCAAP Steering Committee. As a member of the Steering Committee, the Port supports those efforts by advising and informing the development of the WOCAAP. See also the response to Comment Topic #2: Community Health Risk and AB 617. The Port will continue to pursue grant funding as discussed in the response to Comment Topic #6: Grants, Incentives and Funding Mechanisms.
CARB-57	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	We continue to support the Revised 2020 Plan's focus on the necessary transition to zero-emission operations to protect public health and combat climate change.	Support/ Appreciation	Comment noted.
CARB-58	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	We are encouraged that the Revised 2020 Plan includes more detail on the Port's ongoing planning, tracking, and evaluation activities, as well as efficiency initiatives, to reduce emissions and protect community health, while increasing operational efficiencies and remaining competitive with other West Coast ports.	Support/ Appreciation	Comment noted.

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CARB-59	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	CARB strongly recommends further revision of the Revised 2020 Plan prior to consideration by the Board of Port Commissioners on April 25, 2019 1. Commit to additional actions, especially in the near-term phase {2019-2023), to provide health benefits for West Oakland, an AB 617 community; 2. Establish sector-specific zero-emission goals detailing the Port's vision for the transition to a zero-emission seaport; and 3. Revise and clarify details of newly incorporated material in the Plan document.	Plan Revisions	The Port has committed to the following additional actions: (1) Replace Electrical Infrastructure that is Beyond its Serviceable Life, (2) Port Electrical Grid Reliability and Capacity Upgrades, (3) Pursue Low-Carbon Fuel Standard Credits; (4) Encourage Railroads to Use Cleanest Equipment in Oakland; and (5) Track SPBP Truck Rate Study. The Port has reevaluated the potential for sector-specific goals; as described in the response to Comment Topic #8, Goals, the current state of zero-emissions technology does not support sector-specific goals other than those already included in Table 3: Intermediate-Term Equipment Goals in the Main Text (Goals I-1 and I-2 for cargo-handling equipment and drayage trucks, respectively). The Port will assess the potential for sector-specific goals as part of the annual report on the status of the NTAP.
CARB-60	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	CARB urges the Port to commit to adding at least the following strategies for its Near-Term Action Plan {2019-2023). The majority of these actions create policies that would require no net financial investment from the Port or its tenants. Staffing for implementation would not be solely incumbent upon the Port itself.	Plan Revisions	The Port has added Implementing Action E-L-5 to the NTAP in the Final Plan, and will participate in a work group regarding a high-emitting truck detection system should such a work group be formed based on GSPP's further information-gathering. The remaining actions requested by CARB do in fact require additional Port staff and financial resources.
CARB-61	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• High-Emitting Truck Detection System (E-T-6). CARB funded the University of California, Berkeley evaluation of in-use trucks serving the Port, and has since developed its own advanced detection system, the Portable Emissions Acquisition System (PEAQS). This provides CARB the ability to detect automatically, and in real-time, trucks with high emissions. In 2018, CARB amended its statewide inspection programs to lower opacity limits for trucks equipped with diesel particulate filters. Lowered opacity limits support our ability to identify and require repair of the subset of high polluting drayage trucks affecting West Oakland. We are asking the Port to collaborate with CARB to determine how PEAQS or other advanced detection systems can be used to identify trucks with high emissions for citation and repair. The Center for Environmental Public Policy at the University of California, Berkeley submitted recommendations on this issue and may be interested as well.	Plan Revisions	The Port met with GSPP representatives on February 13, 2019, and discussed the issues associated with a potential high-emitting truck detection system. It was apparent that additional information needs to be gathered to determine whether it is worthwhile to create a working group for this type of a system. GSPP agreed to pursue the additional information. The Port will participate in a working group on this Suggested Action, if appropriate based on the additional information collected by GSPP.
CARB-62	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• Ship Rates and Incentives (O-4 and O-6). The Revised 2020 Plan indicates that ships remain the single largest contributor of emissions from the Port; therefore, all emission reduction measures for ships are urgently needed. One potential implementation action, O-6, describes the Port offering financial incentives for ships with lower-emitting engines, cleaner burning fuels, and shore power capabilities. Separately, potential implementation action O-4 quantifies the potential emission reductions from implementation of a voluntary vessel speed reduction (VSR) program. The Port should commit to adopting a berthing rate structure that rewards ships with lower in-transit and/or at berth emissions. A Port commitment for a voluntary VSR does not need to wait until the completion of the Bay Area Air Quality Management District pilot study.	Plan Revisions	The Port has added Implementing Action FG-4 Track SPBP Truck Rate Study to the NTAP (see Table 2 of the Main Text). Combined environmental incentives for ships, and vessel speed reduction may be included in future revisions to the NTAP. BAAQMD intends to continue to better understand the pros and cons of VSR (Michael Murphy, pers. comm. 2019). The Main Text describes the screening and evaluation process for Implementing Actions, including the role of the Co-Chairs and Task Force members (see Screening and Evaluation of Implementing Actions).

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CARB-63	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• Request Railroads to Use Cleanest Engines in Oakland (E-L-5). CARB's 2008 Health Risk Assessment for West Oakland identified off-port locomotive emissions as a significant contributor to health risk in the West Oakland community. Initiatives to reduce emissions from the port should also consider emissions from nearby off-port rail yards, especially considering that a significant fraction of freight is transported in sequence through both facilities. Therefore, the Port should not delay to request and coordinate with neighboring Class 1 rail yards to use the cleanest available locomotive propulsion technologies on their proprieties.	Plan Revisions	This action was included in the NTAP in the Final Plan (Item 32). The action is now called "Encourage Railroads to Use Cleanest Engines in Oakland."
CARB-64	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• Infrastructure Planning and Investment. We previously suggested that [the] Port begin infrastructure investments in the Near-Term (2019-2023) instead of waiting until the Intermediate Term (2023-2030). We are supportive of the additional equipment and infrastructure actions in the Revised 2020 Plan, but urge the Port to begin deploying more widespread electrical infrastructure and modifying electrical substations now.	Infrastructure	See response to Comment Topic #10: Infrastructure.
CARB-65	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	The Maritime Power Capacity Study for Terminal Electrification is expected in Spring 2019, and early upgrades will begin laying the groundwork for zero emission maritime operations. Earlier investments in infrastructure will accelerate the adoption of zero-emission equipment instead of next-best alternatives, and will also allow infrastructure projects to remain competitive for local, State, and/or federal incentive opportunities.	Infrastructure	See response to Comment Topic #10: Infrastructure.
CARB-66	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	To address the lack of space for truck charging infrastructure that is cited in the response to comments on the Draft Plan, we strongly encourage the Port to work with the City of Oakland to identify space within the entire former Oakland Army Base property for this need. This action is to help mitigate the impacts of the expanded on- and off-port freight activities occurring in response to development of that property by both the Port and the City.	Infrastructure	See the response to Comment Topic #12: Truck Parking and Charging. In addition, the Port has added a new Suggested Action, Provide Truck Parking, to Table C-3: New Suggested Actions in Appendix C.
CARB-67	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	CARB staff supports the Revised 2020 Plan' s overall strategies to promote pathways to zero-emission technologies.	Support/ Appreciation	Comment noted.
CARB-68	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	As indicated in our initial comment letter, we reiterate the urgency to set transformative and ambitious zero-emission goals beginning in the near-term phase.	Port commitments	See the response to Comment Topic #8: Goals.
CARB-69	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	We recognize a number of specific and conflicting suggestions were received for achieving percentages of zero-emission equipment by a certain date, which cannot all be accommodated because some conflict with each other.	Targets/ Goals	See the response to Comment Topic #8: Goals.
CARB-70	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	We urge the Port to respond to CARB's initial comments and those received from other stakeholders by identifying target dates for a percent of zero-emission equipment that should be possible for a given sector. These goals or targets can be included as sub-bullets in Strategies #2 and #3, which are currently listed on Page 4 of the Revised 2020 Plan.	Targets/ Goals	See the response to Comment Topic #8: Goals.

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CARB-71	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	By establishing specific zero-emission performance goals, the Port will send clear signals to industry and tenants to invest in cleaner technologies.	Targets/ Goals	See the response to Comment EJ/WOEIP-30.
CARB-72	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Further, early adoption of advanced technologies will expand opportunities for local, State, and federal funding that typically sunset before statewide requirements take effect.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
CARB-73	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	The Port should further amend its Revised Draft 2020 Plan to include the following changes. • Geographic domain of the emission inventory. The 2015 and 2017 calendar year inventories underestimate port emissions because the methodologies do not attribute emissions from trucks or locomotives before they enter or after they leave the port boundary. The impact of the narrow domain in the Revised 2020 Plan is that the emission sources for trucks and locomotives appear disproportionately small relative to their actual impact to the surrounding community and air basin. We recognize that the contribution to the emission inventory may not be directly proportional to a source's cancer risk determined through a health risk assessment. However, it is essential that the Port direct its consultants to use available activity data and CARB on-road and off-road models to calculate emissions of trucks and locomotives outside the port boundary for cargo being transported to and from the port.	EIs	See the response to Comment Topic #4: Emissions Inventories.
CARB-74	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• Emission reductions. port staffing, and financial investments. Some, but not all potential and identified Implementation Actions (Table 2 and Appendix C) include emission benefits or cost information. The Revised 2020 Plan includes substantial detail and consideration for each (potential) action, but it is not clear to stakeholders or other readers whether the Port considers an action to not be feasible due to port staffing, funding limitations, or other reasons. The Port should expand analysis of potential implementation actions to include emission reductions expected, estimated port staffing, and required financial investments. Objective criteria for each action will help prioritize and direct funding to the most effective projects.	Screening	See response to Comment BAAQMD-34.

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CARB-75	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• Adjustments to cost methodology in Appendix F. We request two edits to this section: 1. The cost analysis for operating expenditures (OpEx) does not include a recently available credit through CARB's Low Carbon Fuel Standard (LCFS) beginning in 2019. Yard tractors, other cargo handling equipment, transport refrigeration units, and ocean-going vessels at berth are now eligible for generation and sale of credits for zero-emission operation. In some cases, including yard tractors, credit sale revenues may exceed the assumed cost of electricity at $0.15/kW-hr. The Port should revise OpEx assumptions to account for LCFS credit values. 2. Figure F.10 presents the expected year that a single year of operating expenditures will be less than the increased capital cost of a zero-emission yard tractor, both with and without the current vouchers. The target dates of 2022 and 2038 do not provide a useful statistic because many yard tractors are operated for five years or longer. Instead, we suggest presenting the operational time (with cost savings realized over several years) to break even in a specific calendar year.	Appendix F	See the response to Comment Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning regarding the low-carbon fuel standard. An expected lifespan of 8 years for all on-dock yard tractors has been factored into calculations for both Figures F.10 and F.11 in the updated document.
CARB-76	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Our individual commitments for action and effective collaboration are critical to achieve our mutual vision to transform freight operations at the Port of Oakland and across California. CARB urges the Port to reconsider our comments on the initial Draft and specifically those highlighted in this letter on the Revised 2020 Plan.	Plan Revisions	Comment noted. The Port has carefully considered all of CARB's comments, and all other comments submitted.
CARB-77	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	With an expanded commitment to additional near-term actions, we are confident of the Port's ability to lead the transition to a zero-emission seaport with its tenants, plus the ocean carriers, railroads, and trucking firms serving the port.	Port Commitments	See the response to Comment BAAQMD-23.
BAAQMD-21	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	Thank you for the opportunity to provide comments on the revised draft to the Port's "2020 and Beyond" Seaport Air Quality Plan. The Bay Area Air Quality Management strongly supports the Plan's vision to transition the Seaport operations to zero emissions "... through changes in equipment, operations, fuels, and infrastructure.["]	Support/ Appreciation	Comment noted.
BAAQMD-22	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	We appreciate that Port staff have incorporated into the Revised Draft Plan some of the comments that were submitted during the first review period calling for a clearer set of specific commitments and timelines for the purchase of zero emission trucks and equipment,	Support/ Appreciation	Comment noted.
BAAQMD-23	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	, however the Revised Draft Plan still falls short of showing a clear glide path towards zero emissions.	Port Commitments	As clearly described in the Plan, the path to a zero-emissions Seaport will consist of a series of incremental steps that will be implemented by a variety of organizations. The Plan itself recognizes that the transition will likely occur in phases, and that on-going learning will be an essential part of the process. The Plan's section entitled Timeline and Phased Action Plan lays out the Port's perspective on the pathway to zero emissions. At this stage of technology development for zero-emissions equipment, setting specific time frames for deployment of zero-emissions equipment would be speculative. The Port is working within the Governor Brown's 2030 and 2050 policy targets.

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BAAQMD-24	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	Air District staff recommend that the following changes be made to the Revised Draft Plan prior to consideration by the Board of Commissioners: • Add health costs and benefits to the Port's feasibility criterion. The Air District, the California Air Resources Board and the Alameda County Health Department can all be useful partners in this effort.	Screening	The Port's efforts will continue to focus on emissions reductions and the process of implementing zero-emissions technology. The Port will rely on health risk assessment and estimates of related costs and benefits by agencies, such as BAAQMD, Alameda County Public Health Department, and CARB, who have the expertise to conduct these types of assessments. The findings of the Draft 2019 BAAQMD HRA (as resented to the WOCAAP Steering Committee on March 6, 2019) (BAAQMD 2019) have been incorporated into Appendix B.
BAAQMD-25	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	The Air District can specifically help by sharing the data and health metrics being developed as part of the technical studies in support of the West Oakland Community Action Plan.	AB 617	The Port appreciates the Air District's willingness to share data and health metrics. The Port will use the information provided in BAAQMD's Draft 2019 West Oakland Health Risk Assessment (Draft 2019 HRA), and has incorporated the findings from the Draft 2019 HRA (as presented to the West Oakland Community Air Action Plan [WOCAAP] Steering Committee on March 6, 2019) into Appendix B. See also the response to Comment Topic #2: Community Health Risk and AB 617.
BAAQMD-26	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	A clearer understanding of the specific waterfront sources most impacting local health can help inform the timing of the Port's transition to zero emissions.	Targets/ Goals	The Plan considers the relevant available information regarding potential Seaport-emissions-related contributions to community health risk. This includes the findings from the Draft 2019 BAAQMD HRA (as presented to the WOCAAP Steering Committee on March 6, 2019) that relied in part on emissions data compiled as part of the Port's 2017 Emissions Inventory. See also the response to Comment Topic #4: Emissions Inventories.
BAAQMD-27	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	Commit to providing financial support and to expedite the electrical upgrades that are needed to realize the Port's transition's to zero emissions.	Port Commitments	See response to Comment EJ/WOEIP-53.
BAAQMD-28	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	The Revised Plan relies too heavily on non-Port sources of funding and others' efforts for the implementation of new clean technology, equipment, fuels, and infrastructure.	Funding	The Port invests significant resources in support of air quality initiatives and the pathway to zero emissions. For example, the Port entered into a Memorandum of Understanding (MOU) with the Port of Long Beach regarding a Zero and Near-Zero Emission Freight Facilities (ZANZEFF) grant to test new zero-emissions container-handling equipment and drayage trucks. In the MOU, the Port committed to provide at least $1.25 million in matching funds to design and construct ten electric charging stations. See also the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
BAAQMD-29	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	The Air District has invested well over $100 million in grant funding for clean vehicle and equipment Port-related projects over the past decade, and while the Air District anticipates that another $100 million in funding may be available over the next five to ten years for the purchase of zero emission equipment and trucks, these funds are subject to periodic review and renewal, are not guaranteed, and will be insufficient to meet the demand to achieve the Port's vision.	Funding	Comment noted. The Port recognizes that no single agency or organization will be able to provide all the funding required for the transition to a zero-emissions Seaport. The Port anticipates that funding will consist of grant funding from multiple sources, investments by the Port's tenants and the Port in its landowner capacity, and potentially investments by OEMs to accelerate technology development and deployment. See also the response to Comment Topic #6: Grants, Incentives, and Funding Mechanisms.
BAAQMD-30	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	As such, the Port's Plan should evaluate and commit to strategies that are within the Port's authority, such as the implementation of container fees to generate revenue for Clean Air projects, the inclusion of conditions on tenants on future lease agreements to require clean and zero emissions technology, and a plan to expedite a coordinated effort to upgrade electrical capacity for all tenants.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
BAAQMD-31	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	We urge the Port to develop an alternative plan to achieve zero emissions that relies on funding and efforts from both Port and non-Port sources.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.

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BAAQMD-32	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	• Establish an *independent* review process for determining the pollution exposure reduction benefits from and the technical and economic feasibility of clean fuels, zero emission trucks and cargo handling equipment, and low-emission engines for harbor craft and locomotives. This review process should rely upon the Task Force to develop a shared consensus of which technologies are the best fit for the trucks and equipment used to move freight at the Port.	Screening	Task Force and Task Force Co-Chair engagement in the five-step screening and evaluation process is described in the Main Text (see Screening and Evaluation of Implementing Actions).
BAAQMD-33	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	The specific role of the Task Force needs to be more clearly describe[d] in the final Plan.	Stakeholder Engagement	The specific role of the Task Force is described in the Main Text (see Screening and Evaluation of Implementing Actions), and in Appendix G.
BAAQMD-34	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	There were, in the comments to the initial Draft Plan, many suggested actions from the Port's local community, industry and public partners, which pre-date the development of the "2020 and Beyond" Plan. The placing of these ideas in an Appendix, unexamined by Port staff, unfortunately, and we believe, erroneously suggests that actions recommended by Task Force members are not being fully considered. We urge the Port, at a minimum, to screen these suggestions using the feasibility criterion listed on Page 15 of the Revised Draft Plan.	Implementing Actions	The Port compiled all new Suggested Actions, including Implementing Actions suggested in comments on the Draft Plan in Table C-3: New Suggested Actions in Appendix C, and these actions will therefore be assessed using the five-step screening and evaluation process. The Main Text describes the five-step screening and evaluation process, including the role of the Co-Chairs and Task Force (see Screening and Evaluation of Implementing Actions).
BAAQMD-35	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	The conceptual yard truck replacement scheme discussed in Appendix F is very useful in understanding many of the economic and technical issues in moving to zero emissions.	Appendix F	Comment noted.
BAAQMD-36	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	We encourage the Port to extend this analysis to other types of cargo handling equipment. The extended analysis should utilize the fleet data from the 2017 Seaport Emissions Inventory to determine the replacement rate.	Appendix F	See the response to Comment Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning. The Port will extend the cost comparison for diesel versus electric or hybrid equipment to additional equipment types, once these other equipment types are proven feasible and sufficient cost and operating data exist for a robust, meaningful analysis. The equipment data used in Appendix F were obtained from the marine terminal operators, and are consistent with what would be expected based on industry standards.
BAAQMD-37	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	We also encourage the Port to consider the costs involved with an accelerated turnover rate, in addition to assuming equipment will only be replaced at the end of its useful life.	Appendix F	These costs have not been analyzed as a key planning assumption in Appendix F is to avoid stranded assets (i.e., to avoid retiring equipment before the end of its useful life).
BAAQMD-38	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	In summary, most of the thirty-two actions listed in the Revised Draft Plan have the Port tracking or studying actions undertaken by Port tenants and the Ports of Los Angeles and Long Beach; observing the retrofit of a small number of existing equipment; supporting the purchase of 21 electric trucks and augmenting the Port's fleet with an electric vehicle. These are all good beginnings. We recognize the path to zero-emissions at the Port will not be easy and will take time. But restricting the initial efforts to already funded equipment replacements and some studies, while pragmatic, is too small a beginning.	Port Commitments	The Port has adopted a pragmatic approach based upon its feasibility analysis in Appendix F. The Plan is dynamic. The NTAP will be reviewed annually to assess the development of new feasible technologies, and the overall Plan Update will occur in 2023. See also the response to Comment BAAQMD-23.
BAAQMD-39	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	Now is the time to be ambitious and bold. I would like to again express my confidence that, working in concert with the local community and your workers, tenants and customers, the Port of Oakland can reach zero emissions operations.	Support/ Appreciation	Comment noted.
EJ/WOEIP-24	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	On behalf of the West Oakland Environmental Indicators Project, we appreciate the ability to offer these additional comments on the Port of Oakland's Revised Draft Seaport Air Quality 2020 and Beyond Plan ("the Plan").	Support/ Appreciation	Comment noted.

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EJ/WOEIP-25	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	While we acknowledge and appreciate the added commitments in the revised Plan, we continue to urge the Port to set stronger, concrete goals that will drive the transformation required to achieve the Port's vision of becoming a zero-emissions Seaport.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-26	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan continues to undermine that vision by failing to include reasonable sector-specific commitments that will send clear signals for investment by industry and tenants.	Port Commitments	See the response to Comment CARB-59.
EJ/WOEIP-27	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan supports this refusal by hiding behind artificial barriers that are within the Port's ability to address and using flawed assumptions regarding cost and feasibility.	Port Commitments	See the responses to Comments BAAQMD-23 and BAAQMD-38.
EJ/WOEIP-28	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	As a result, we recommend the following changes. **I. The Plan Must Strengthen its New Commitments to Deploy Zero-Emissions Equipment and Infrastructure.** While we welcome the new "intermediate-term equipment goals" added to the near-term action plan, we urge the Port to strengthen these goals and commit to the transformation that is being pursued at the San Pedro Bay Ports, and that has been deemed feasible by State and local agencies considering regulations of port trucks and cargo handling equipment.	Targets/ Goals	See the response to Comment Topic #8: Goals. The Port's commitments are feasible, based upon the findings of the Port's equipment technology feasibility analysis (Appendix F). The Plan does not include equipment goals that are not supported by feasibility assessments (i.e. "speculative goals").
EJ/WOEIP-29	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The failure to adopt such commitments will undermine planning and investment that is not only critical to finally addressing the health impacts on surrounding communities, but also to keeping the Port competitive in a changing regulatory environment.	Port commitments	Subject to Board approval, the Plan commits the Port of Oakland to a long-term policy direction - "the pathway to zero emissions" and to specific zero-emissions equipment and related infrastructure goals. The Port's commitments are shown in the NTAP and the Intermediate-Term Equipment Goals (see Tables 2 and 3 in the Main Text). The three equipment and related infrastructure goals are 1) by 2025, deploy at least 44 pieces of zero-emissions cargo-handling equipment at the Seaport; by 2027; 2) deploy at least 21 zero-emissions drayage trucks in short-haul service at the Seaport by 2027; and 3) install electrical infrastructure to support the zero-emissions equipment deployments. The Port's commitments are feasible, based upon the findings of the Port's equipment technology feasibility analysis (Appendix F). The Plan's policy direction, Near-Term Action Plan and Intermediate-Term Equipment Goals address community health risk by focusing on emissions reductions. Keeping the Port competitive is a goal of the Plan (Goal #1: Keep the Port competitive and financially sustainable, and ensure that the Port remains a catalyst for jobs and economic development.). The Plan does not include equipment goals that are not supported by feasibility assessments (i.e. "speculative goals").
EJ/WOEIP-30	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Setting strong goals is also important because (1) they help accelerate cost declines by sending clear market signals to both the purchasers and manufacturers, and (2) they ensure investment in equipment and supporting infrastructure that takes advantage of subsidies, plans for rational transition, and avoids stranded investments in next-best alternatives.	Port commitments	The Port has provided a clear market signal by publishing this Plan vision - the pathway to zero emissions and by including specific equipment and infrastructure goals. Within the California ports system, the San Pedro Bay Ports' Clean Air Action Plan also provides market signals in its policy goals. Demonstration projects that various California ports are undertaking also provide market signals. Anticipated regulations will promote the long-term, foreseeable transformation to zero-emissions operations. There are also related initiatives such as the West Coast Clean Transit Corridor Initiative. In addition, original equipment manufacturers (OEMs) have announced their commitments to developing zero-emissions equipment, indicating that the market place is responding to the need for this type of equipment.

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EJ/WOEIP-31	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	In other words, being clear and setting strong commitments is critical to supporting the feasibility of the transition envisioned. The Plan's failure to adopt these commitments will undermine its success.	Port commitments	See the response to Comment EJ/WOEIP-29.
EJ/WOEIP-32	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan should commit to replace all cargo handling equipment with zero-emissions equipment by 2030.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-33	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan adds a new near-term implementing action of deploying 44 pieces of zero-emissions cargo handling equipment by 2025. The Plan should clarify whether this commitment is in addition to the existing commitments (i.e., to deploy 13 hybrid RTGs at the Oakland International Container Terminal, the top pick at Matson Terminal, and the five zero-emissions yard tractors). Commenters assume the commitment is in addition to these pre-existing commitments, but in any event believe a stronger commitment is reasonable both for 2025 and 2030.	Targets/ Goals	This goal includes existing commitments. This has been clarified in the NTAP (Table 2 of the Main Text). The Port's commitments are feasible, based upon the findings of the Port's equipment technology feasibility analysis (Appendix F). The Plan does not include equipment goals that are not supported by the feasibility assessments (i.e. "speculative goals").
EJ/WOEIP-34	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The cost analysis provided in Appendix F uses several flawed or outdated assumptions that the updated Plan must correct. First, the Plan assumes yard tractors currently cost $300,000. That price should be $250,000. Second, the Plan assumes a 200kWhr battery pack, when the standard is 250kWhr, and is likely to increase over time.	Appendix F	Appendix F used the best data available surveyed from current manufacturers of on-terminal yard tractors. Batteries of about 200kW are consistent with the top-end sizes of yard tractors currently in operation and planned for demonstration projects. Batteries may get larger over time, but Appendix F is focused on the Near-Term Phase for which these sizes are applicable. Recent purchasers of electric tractors have cited a cost range of $275,000 to $300,000 per tractor, not including sales tax. Up to 80% of the incremental cost (not including sales tax) is offset by Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) vouchers; another 15% off-set of the incremental cost is available in Disadvantaged Communities.
EJ/WOEIP-35	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Third, the analysis fails to include the low-carbon fuel standard ("LCFS") credits that could more than offset fuel costs for electric cargo handling equipment.	Appendix F	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning .
EJ/WOEIP-36	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Finally, the analysis artificially assumes that upfront capital costs must be recouped within one year. There is no basis for this assumption. Total costs of ownership will be lower for electrical yard tractors over their eight-year lifetime, and any need to see those returns sooner is a financing issue that, as discussed below, is within the Port's ability to influence.	Appendix F	The revised language in Appendix F clarifies that annual operational expense savings are included to provide a reference and context to demonstrate the importance of vouchers to offset high current on-terminal electric yard tractor purchase costs. Costs are not required to be recouped in a single year, and the cost comparisons in both Figures F.10 and F.11 reflect an 8-year tractor life. The response to Comment Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning addresses the issue of the required return on investment.
EJ/WOEIP-37	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	By correcting these assumptions, we expect the analysis would show that a much more rapid adoption of zero-emissions yard trucks is not only be feasible but desirable.	Appendix F	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning.
EJ/WOEIP-38	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	With these changes, we believe the Port could comfortably commit to a target of 33% of yard trucks being zero- emissions by 2025 and 100% by 2030.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-39	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The remaining equipment can also be replaced with zero-emissions alternatives in the 2030 timeframe. Over half of the Port's RTGs are already slated for replacement by hybrids. It is reasonable to expect that the remainder could be similarly replaced before 2030.	Targets/ Goals	See the response to Comment Topic #8: Goals.

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EJ/WOEIP-40	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	That leaves top picks, which the report acknowledges will be commercially available from Kalmar and others around 2021. Again, with declining battery costs, declining manufacturer costs with increasing scale, Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project ("HVIP") incentives, and LCFS credits that likely more than offset fuel costs, the Port should have high confidence in setting a 100% zero-emissions 2030 target.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-41	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	1. The Plan should commit to zero-emissions drayage trucks by 2035.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-42	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The new commitment to deploy 21 zero-emissions drayage trucks by 2027 is not a serious commitment. Again, the Plan should clarify that this commitment is in addition to the zero- emissions drayage trucks that are already included in prior commitments. Even assuming this is an additional commitment, the Port's commitment amounts to converting less than half of 1 percent of the current drayage truck fleet serving the Port. Meanwhile, the San Pedro Bay Ports are pursuing a goal of converting all of their 17,500 drayage trucks, including trucks that deliver over the Grapevine, to zero-emissions by 2035.	Targets/ Goals	This equipment goal of 21 zero-emissions drayage trucks includes existing commitments. This has been clarified in the NTAP (Table 2 of the Main Text). As discussed in Topic #8: Goals, as a guiding principle for the Plan, the Port will continue to focus on practicable technology, that is, technology that has achieved a specified level of maturity. See also Response to Comment EJ/WOEIP-29.
EJ/WOEIP-43	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan declines to provide a detailed analysis of the feasibility of requiring drayage trucks servicing the Port to be zero-emissions. The Plan should be updated to include such an analysis.	ZE Trucks	New Suggested Actions, including this suggestion to Develop Feasibility Analysis for Requiring Zero-Emissions Drayage Trucks, are included in Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-44	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port should consider the draft feasibility assessment being prepared for the San Pedro Bay Ports. That analysis, while still overly conservative in many respects, notes that in addition to BYD, Daimler and Volvo have announced plans to commercialize zero-emissions Class 8 trucks in the 2021 timeframe, with Navistar making similar commitments for 2025.1	ZE Trucks	The Port has reviewed the referenced document. The feasibility analysis does indeed state that a number of other OEMs intend to have initial models of electric heavy-duty trucks available in the 2020 to 2021 timeframe. The feasibility analysis also estimates that in 2021 heavy-duty trucks suitable for short-haul drayage may have reached Technological Readiness Level 8 (i.e., these vehicles would not yet be considered commercially available). This conclusion is consistent with the Port's analysis in Appendix F. The Port will continue to track feasibility analyses and demonstration projects performed by the SPBP, and will also gain experience from the electric drayage trucks to be tested at the Port of Oakland. The results of these studies and demonstration tests will be factored into the annual review of the NTAP and the 5-year Update of the Plan.
EJ/WOEIP-45	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The revised analysis should identify the range requirements for trucks serving the Port, including the number of "short-haul" and "long-haul" trucks, and their operational requirements.	ZE Trucks	See the response to Comment GSPP-79.
EJ/WOEIP-46	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The draft feasibility assessment for the San Pedro Bay Ports found that while current range capabilities for battery-electric drayage trucks were not sufficient to meet maximum range requirements, the range capabilities "are sufficient to meet the average shift and daily range of drayage trucks" and the battery-electric truck platform "could meet the range requirements for some meaningful fraction of drayage operations."2	ZE Trucks	See response to Comment Topic #9: Zero-Emissions Technology.
EJ/WOEIP-47	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The North American Council for Freight Efficiency predicts that battery- electric trucks will achieve maximum daily range (and maximum freight weight) parity in the 2030 timeframe, meaning that a 2035 target for all electric drayage trucks should be feasible from an operations perspective.3	ZE Trucks	While it may be operationally feasible to have all electric drayage trucks by 2035, it is up to each individual truck owner and licensed motor carrier to determine when it makes sense financially and otherwise to convert its trucks to zero-emissions vehicles. See also the response to Comment Topic #8: Goals.

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EJ/WOEIP-48	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The California Air Resources Board ("CARB") and others have looked at the total cost of ownership and found that battery-electric drayage trucks, when HVIP incentives and LCFS credits are considered, are already cheaper than diesel drayage trucks.	Financial Feasibility	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning.
EJ/WOEIP-49	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	With HVIP incentives for trucks used in disadvantaged communities ($150,000 + $15,000), a new $250,000 electric short-haul drayage truck will cost roughly $85,000 (excluding taxes and tariffs). With LCFS credits, operators could save another $50,000 per year in fuel costs.	Financial Feasibility	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning.
EJ/WOEIP-50	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	In other words, even if operators are buying used diesel trucks, an electric drayage truck could pay for itself in the very short-term, and the turnover of existing equipment could be even faster than assumed in the draft analysis.	Appendix F	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning; a summary of results of the San Pedro Bay Port's (SPBP's) Draft 2018 Feasibility Assessment for Drayage Trucks added to the Drayage Truck section in Appendix F.
EJ/WOEIP-51	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	As additional manufacturers enter the market and battery costs continue to decline, zero-emissions drayage trucks will become even more competitive. Such benefits, combined with the forced turnover of older diesel trucks currently required under SB1 beginning in 2020, mean that ports will have a critical window to support the transition to zero-emissions trucks serving their facilities.	ZE Trucks	The Plan anticipates the development of an expanded market place for zero-emissions equipment, and improved battery technology. Costs for zero-emissions equipment will be set by the market and equipment owners will make their purchase decisions accordingly. Equipment purchases will factor in considerations such as financial incentives, reliability, and operational performance. See also the response to Comment Topic #8: Goals.
EJ/WOEIP-52	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan must be revised to take advantage of these opportunities in order to achieve its long-term vision.	Plan Revisions	As stated in Appendix A: Planning Assumptions, the Port adopts a pragmatic approach, and this is reflected in the Plan. Prudently waiting for technology to mature to a certain level of commercial and operational feasibility promotes the success of the long-term vision.
EJ/WOEIP-53	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	1. The Port must deploy electrical infrastructure to support the transition to zero-emissions.	Port Commitments	See the response to Comment Topic #10: Infrastructure. The Plan adds two new Implementing Actions, Replace Electrical Infrastructure that is Beyond its Serviceable Life and Port Electrical Grid Reliability and Capacity Upgrades, to the NTAP.
EJ/WOEIP-54	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Consistent with the above changes, the commitment to build out the infrastructure to support electrification (Plan at p. 28) must be expanded.	Port Commitments	See response to Comment EJ/WOEIP-53.
EJ/WOEIP-55	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	We urge the Port to begin widespread deployment of charging infrastructure now, which may include upgrades to substations and other make-ready improvements. Such planning and investment should be proactive rather than reactive.	Port Commitments	See response to Comment EJ/WOEIP-53.
EJ/WOEIP-56	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Building out this infrastructure will address barriers to adoption of zero-emissions equipment and enable accelerated adoption.	Infrastructure	See response to Comment Topic #10: Infrastructure.
EJ/WOEIP-57	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	It will also avoid investments in technologies that are certain to be stranded in the near-term as zero-emissions technologies improve and regulatory requirements are tightened.	Infrastructure	See response to Comment Topic #10: Infrastructure.
EJ/WOEIP-58	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Finally, early build-out will allow the Port to take advantage of various incentives that are available now, but will likely decline as regulations are adopted and funds are used.	Infrastructure	See response to Comment Topic #10: Infrastructure.
EJ/WOEIP-59	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	1. The Port must take steps to address pollution from nearby off-port railyards.	Port Commitments	See the response to Comment Topic #8: Goals.

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EJ/WOEIP-60	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan should also include new commitments to address pollution from nearby railyards.	Port Commitments	See the response to Comment Topic #8: Goals.
EJ/WOEIP-61	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	We recognize that the Port has no direct control over these railyards, but the Port can work with railyard operators to create incentives to use available cleaner equipment.	Implementing Actions	New Suggested Actions, such as this suggested action to Provide Incentives to Railyard Operators to Use Cleaner Equipment, are included in Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-62	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Cleaner locomotive technologies are available, in particular for equipment that remains at the railyard.	Implementing Actions	Comment noted. Appendix C: Suggested Actions includes several Implementing Actions pertaining to cleaner equipment at railyards.
EJ/WOEIP-63	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port should coordinate with neighboring railyards to use these new technologies on their properties.	Port Commitments	The Port has committed to an additional Implementing Action, Encourage Railroads to Use Cleanest Equipment in Oakland, in the NTAP. See also the response to Comment Topic #8: Goals.
EJ/WOEIP-64	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	**II. The Plan Must Address the Barriers that are Within the Port's Control.** The Plan repeatedly identifies barriers to rapid deployment of zero-emissions solutions that are within the Port's ability to address. Instead of committing to action to address the barrier, however, the Plan hides behind those barriers as an excuse for not committing to more ambitious action. The Plan should be revised to include actions to address the following barriers:	Port Commitments	See the responses to Comments BAAQMD-23 and BAAQMD-38.
EJ/WOEIP-65	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	1. <u>Financing</u> The Plan fails to address comments pointing to the availability of various financing opportunities, including lease agreements, gate fees, and establishing revolving loan-funds.	Funding	The Port considered the various financing mechanisms proposed. As described in response to Comment Topic #6: Grants, Incentives, and Funding Mechanisms, the Port does not serve as a lending agency. All other applicable funding mechanisms will be considered when the Port evaluates the feasibility of specific Implementing Actions.
EJ/WOEIP-66	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Response to Comments notes the importance of incentive funds and states that the Port does not serve as a lending institution, but the Response does not explain why a revolving loan fund is not feasible.	Funding	See the response to Comment EJ/WOEIP-65.
EJ/WOEIP-67	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Gate fees, for example, can be used to create incentives for adopting zero-emissions alternatives while also creating funds that can be used for revolving loans or for other Port investments.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
EJ/WOEIP-68	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Lease agreements requiring, or rewarding, tenant improvements will provide long-term benefits to both the Port and the shipping companies themselves, many of whom have corporate commitments to greenhouse gas reductions.	Implementing Actions	Leases and tenant improvements are among the tools that can be used to promote the pathway to zero emissions. The Port includes a standard environmental exhibit in all new leases. The Environmental Exhibit has an air quality section. The Port can negotiate certain lease terms; however, the Port cannot impose lease terms unilaterally. The Port continues to coordinate with tenants regarding potential opportunities for emissions reductions.
EJ/WOEIP-69	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port should include operators in the lease negotiation process at an early stage to incentivize investment in zero-emissions technologies.	Funding	The Port is in on-going contact with [marine terminal] operators and other tenants. The Port's tenants are aware of the Port's commitment to a pathway to zero emissions as described in this Plan.
EJ/WOEIP-70	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan also fails to note that private financing options are available (e.g., Generate Capital's partnership with BYD), which, when combined with the fact that total cost of ownership is likely lower for many types of zero-emissions trucks and alternatives, should make adoption of these alternatives financially desirable.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
EJ/WOEIP-71	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	A thorough analysis of these financing options should be conducted.	Plan Revisions	See the response to Comment Topic #6: Grants, Incentives, and Funding Mechanisms. Also, the Port has added the suggested Implementing Action, Analysis of Financing Options, to Table C-3: New Suggested Actions in Appendix C.

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EJ/WOEIP-72	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port of Long Beach is hosting a workshop on private financing options. The Port of Oakland should do the same.	Implementing Actions	New Suggested Actions, such as this suggestion to Host Private Financing Workshop, are included in Table C-3: New Suggested Actions in Appendix C. See also the response to Comment Topic #5: Financial Feasibility.
EJ/WOEIP-73	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	More fundamentally, the Plan should identify the investment needs over time for achieving its vision for becoming a zero-emissions Seaport and propose a plan for financing those needs. Instead, the Plan raises the uncertainty of financing to justify avoiding strong commitments – that approach will virtually ensure failure.	Port Staffing/ Resources	See the Funding the Plan in the Main Text. Implementation of the Plan will proceed incrementally, as funding and resources for various actions become available and the cost of new zero-emissions or hybrid equipment comes closer to achieving cost parity with diesel-fueled equipment. In addition, the Port has added a new suggested Implementing Action, Financing Plan for Transition to Zero-Emissions Seaport, to Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-74	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	2. Space for charging and servicing. The Plan notes that marine terminal operators will not be able to accommodate external drayage truck charging due to a combination of space constraints and labor rules. (Plan at p. F-24.)	Noted	Comment noted. See also the response to Comment Topic #12: Truck Parking and Charging.
EJ/WOEIP-75	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan, however, includes no discussion of how the Port, working with the City of Oakland, might promote off-terminal charging and servicing locations within the Port's land, as part of the ongoing Truck Management Plan effort or within the Oakland Army Base development process.	Implementing Actions	See the response to Comment Topic #12: Truck Parking and Charging. Also, the Port has added a new Suggested Action to Provide Public Drayage Truck Charging Infrastructure to Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-76	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan notes that the Port will be responsible for providing power to trucks domiciled at the Port-provided parking areas (Plan at p. F-24), but does not explain why similar charging infrastructure could not be used by other drayage trucks serving the Port.	Implementing Actions	See the response to Comment Topic #12: Truck Parking and Charging. Also, the Port has added a new Suggested Action to Provide Public Drayage Truck Charging Infrastructure to Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-77	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan must identify the space needs for meeting its goals, and identify the options available to the Port to satisfy those needs.	Plan Revisions	See the response to Comment Topic #12: Truck Parking and Charging.
EJ/WOEIP-78	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Instead, the Plan implies that space for charging and servicing is a barrier that the Port cannot address, when the truth is that the Port is simply choosing not to address the issue in the Plan.	Implementing Actions	See the response to Comment Topic #12: Truck Parking and Charging.
EJ/WOEIP-79	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	3. Operator "concerns" and acceptability. The Plan uses operation and overall "acceptability" as criteria for assessing the feasibility of proposed actions (Plan at p. 15), and raises vague "concerns" around the use of certain electric equipment (Plan at p. F-10) to support slow transition to zero-emissions alternatives.	Screening Criteria	Operator concerns reflected in the acceptability criterion are based on part on comments provided during Task Force meeting #4, as well as concerns raised in comment letters from industry.
EJ/WOEIP-80	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	These subjective barriers are entirely within the Port's ability to influence, and should not be used to reject actions. Instead, to the extent staff believe there are acceptability barriers, they should outline a plan to address these concerns.	Screening Criteria	It is up to each equipment owner to determine acceptability. The Port will continue to share information regarding the status of zero-emissions technology, grant funding, and the results of demonstration projects. Information documenting acceptable equipment performance and support for repair and maintenance will help increase acceptability of zero-emissions equipment.
EJ/WOEIP-81	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Pilot demonstrations will assist in this effort, but more could be included in the Plan. For example, the Port could organize technology fairs and opportunities for vendors to demonstrate their technologies and answer questions, financing workshops as noted above, and briefings from other operators that have adopted zero-emissions technologies.	Technology	New Suggested Actions, including this suggestion for Technology Fairs and Vendor Demonstrations, were included in Table C-3: New Suggested Actions in Appendix C.

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EJ/WOEIP-82	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port should also acknowledge that it is not solely up to operators to choose what can and cannot be used within the Port. In the same way that operators might not have "chosen" to upgrade to cleaner diesel trucks or to plug-in ships while at berth, acceptability and choice cannot be litmus tests for moving forward.	Screening Criteria	Until regulations are put in place requiring maritime operators and/or truckers to upgrade their equipment, acceptability will continue to be an important criterion for evaluating Implementing Actions.
EJ/WOEIP-83	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	4. Labor Restrictions. Commenters acknowledge the real logistical issues that must be addressed and that labor agreements are not controlled by the Port. Nonetheless, the Port can outline the labor issues that need to be addressed to facilitate the transition to becoming a zero-emissions Seaport and ensure that those issues are included in future agreements. The San Pedro Bay Ports are pursuing a similar transition, so it is important that future agreements work for the Port of Oakland as well. The failure to participate in this dialogue, again, will ensure the failure to address these barriers.	Workforce Development	The Plan includes Appendix E: Workforce Development Plan. The Port has adopted a Jobs Policy for the CenterPoint—Seaport Logistics Complex. This policy includes strong local hire goals for West Oakland residents and was negotiated in partnership with labor. Expansion of a Port-wide Jobs Policy is under consideration.
EJ/WOEIP-84	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	5. Port Staffing. The Plan includes vague references to staffing limitations to pursue aggressive actions and support the transition to zero-emissions alternatives. We know that much of the funding provided to the Port to address environmental issues includes overhead for staffing.	Port Staffing/ Resources	See the response to Comment Topic #11: Staffing and Resources.
EJ/WOEIP-85	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan should describe what staffing support is required to achieve the transition to a zero-emissions Seaport, identify the resources currently available, and identify any shortfall.	Plan Revisions	See the response to Comment Topic #11: Staffing and Resources.
EJ/WOEIP-86	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Once that shortfall is identified, the Plan should identify options for the Board of Port Commissioners to consider that address that shortfall.	Plan Revisions	See the response to Comment Topic #11: Staffing and Resources.
EJ/WOEIP-87	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	We believe the Port should hire dedicated staff who will work on achieving a zero-emissions Seaport. These staff can develop the required expertise, develop the required contacts with agencies, operators and vendors, and trouble-shoot issues that arise in achieving the commitments in the Plan. Again, the Plan should not hide behind problems, but propose solutions to fix them.	Port Staffing/ Resources	See the response to Comment Topic #11: Staffing and Resources.
EJ/WOEIP-88	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	**III. The Workforce Development Plan Must Clearly Identify How it will Prioritize West Oakland Residents for Port Jobs, Training, Education, and Certification.** Most West Oakland households fall below the federally defined poverty level, with incomes significantly lower than the City of Oakland as a whole. And despite being the community immediately surrounding the Port and its continuously expanding freight activities, West Oakland's reported unemployment rate is nearly 30 percent, which is still likely underestimated. The Port is the logical source for long-term, permanent jobs for West Oakland residents, therefore the Workforce Development Plan must more clearly identify and commit to a pipeline of jobs, training, education, and certification that prioritizes community members.	Workforce Development	The Port has adopted a Jobs Policy for the CenterPoint—Seaport Logistics Complex. This policy includes strong local hire goals for West Oakland residents and was negotiated in partnership with labor. Expansion of a Port-wide Jobs Policy may be part of a longer-term plan defined by community, employer, and education partners through the Jobs and Workforce Development Stakeholders Group of the OAB Jobs Policy.

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EJ/WOEIP-89	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Indeed, the Plan remains noticeably devoid of these specific actions or commitments, despite our similar comments on the earlier draft.	Workforce Development	The Port has adopted a Jobs Policy for the CenterPoint—Seaport Logistics Complex. This policy includes strong local hire goals for West Oakland residents and was negotiated in partnership with labor. Expansion of a Port-wide Jobs Policy may be part of a longer-term plan defined by community, employer, and education partners through the Jobs and Workforce Development Stakeholders Group of the OAB Jobs Policy.
EJ/WOEIP-90	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Instead, the Plan focuses at length on a workforce gap analysis that continues to keep the Port at the level of studying, evaluating, investigating, tracking, meeting, participating, coordinating, and monitoring. Other than repeated and vague references to “local” training and education programs that will “strengthen partnerships” and serve “local” residents, it is unclear exactly how the workforce gap analysis and later workforce transition plan will prioritize West Oakland residents in particular.	Workforce Development	See the response to Comment EJ/WOEIP-89.
EJ/WOEIP-91	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan must move beyond simply “strengthening partnerships” and position the Port as the conduit between industry leaders, training partners, and education providers, with a clear path from each to permanent jobs for community members.	Workforce Development	See the response to Comment EJ/WOEIP-89.
EJ/WOEIP-92	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	In keeping with this elevated role and responsibility for the Port, the Plan should identify any possible incentive funds that the Port itself can provide to support West Oakland residents pursuing Port jobs. The Plan mentions collaborating with other ports to secure grants as well as the California Employment Training Panel funding program, yet never commits actual Port dollars toward training and education.	Workforce Development	The Port is currently funding two West Oakland training providers for Port and Port-related employment opportunities, Rising Sun Center for Opportunity and West Oakland Job Resource Center.
EJ/WOEIP-93	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Similarly, the Plan spends a disproportionate amount of time discussing the broad parameters of its workforce gap analysis, while relying on outside partners and “stakeholders” for an indeterminate process of studying and monitoring that omits key details.	Workforce Development	The Workforce Gaps Analysis is a framework for employers to use as a tool for identifying workforce needs and aligning of training.
EJ/WOEIP-94	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	How long will it take to complete the workforce gap analysis?	Workforce Development	The Workforce Gaps Analysis depends on the emergence of new technology and/or alternative fueling sources for specific equipment.
EJ/WOEIP-95	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	When will the workforce transition plan be implemented?	Workforce Development	Implementation of the workforce transition plan depends on the emergence of new technology and/or alternative fueling sources for specific equipment.
EJ/WOEIP-96	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Who are the “industry stakeholders and partners” whose workforces will be analyzed as part of this process?	Workforce Development	The industry stakeholders and partners whose workforces will be analyzed as part of the Workforce Development Plan depend on the emergence of new technology and/or alternative fueling sources for specific equipment.
EJ/WOEIP-97	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Why are training resources directed toward near-zero emissions equipment, if investment in near-zero technology detracts from the Plan’s vision of a zero- emissions Seaport?	Workforce Development	Near-zero emissions equipment may serve as transitional technology between the current diesel-powered equipment and fully zero-emissions equipment. For example, the hybrid-electric RTGs at Oakland International Container Terminal fall into this category. The actual training resources that will be required, and where they will be directed, depend on the emergence of new technology and/or alternative fueling sources for specific equipment.
EJ/WOEIP-98	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Without more specific targets or goals, it is unclear when or how community members will be prioritized for long-term Port jobs.	Workforce Development	See the response to Comment EJ/WOEIP-89.

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EJ/WOEIP-99	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	**IV. The Public Engagement Plan Must Use a Multi-Stakeholder, Solutions-Oriented Process.** Although the Plan lists potential future meetings as well as strategies and best practices for increasing public participation, it omits more key details with no explanation.	Stakeholder Engagement	See the response to Comment GSPP-85.
EJ/WOEIP-100	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Town halls and workshops can be effective tools for conveying information, but that is not the same as meaningful engagement with the community.	Stakeholder Engagement	Town hall meetings are intended as a method to reach a wider audience of stakeholders who are not involved at the level of the Task Force. Town halls will provide information on Plan progress and facilitate feedback and recommendations. To reach a range of people and viewpoints that is broadly reflective of the local community, existing community forums will be included in the Port's outreach, with particular focus on creating opportunities for joint forums with (but not limited to) the AB 617 Steering Committee, Truck Management Plan stakeholders, Alameda County Transit Commission (for the GoPort Project), and Plan Bay Area.
EJ/WOEIP-101	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port continues to use this model, however, focusing on the top-down distribution of information—controlled by the Port—at the expense of truly engaging with the public to solve problems collaboratively. And while this may serve to shield the Port from any criticism, it betrays the overall lack of a problem-solving mentality that can move the Port away from rote updates on the Plan's progress and toward an in-depth, multi-stakeholder solutions-oriented process.	Stakeholder Engagement	Appendix G, Public Engagement Plan, describes the guiding principles for stakeholder engagement. Appendix G is founded on a model of authentic participation, i.e., engagement that is two-way and meaningful.
EJ/WOEIP-102	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	An example of where such a solutions-oriented process would be valuable is the current limitation on using electric yard hostlers on local public streets. The Port should work together with the City, industry, regulatory agencies, and the community to change local ordinances and determine how electric hostlers can travel to off-site yards near the Port.	Implementing Actions? Stakeholder Engagement?	See the response to Comment EJ/WOEIP-103.
EJ/WOEIP-103	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Not only will such a solution reduce emissions, increase the returns on these vehicles due to greater use, and increase efficiency because the trucks will no longer need to be changed off-site, it will also reduce costs.	Implementing Actions	New Suggested Actions, such as this suggestion to Enable Yard Hostlers to Operate on Public Streets are included in Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-104	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	These win-win solutions are possible if the Port brings all the stakeholders together, asks questions, and approaches these challenges with a problem-solving mentality, as opposed to simply conveying information.	Stakeholder Engagement	See the response to Comment GSPP-85.
EJ/WOEIP-105	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	We are pleased with the Plan's vision for a zero-emissions Seaport, and wholeheartedly agree with that vision.	Support/ Appreciation	Comment noted.
EJ/WOEIP-106	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	To achieve this vision, however, the Port must identify barriers, create a plan to overcome those barriers, set strong milestones, and employ a problem-solving mentality that meaningfully engages with the community and stakeholders by looking for solutions, rather than communicating excuses.	Port Staffing/ Resources	See the response to Comment Topic #11: Staffing and Resources.
PMSA-26	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	We believe this revised Plan provides a reasonable framework for all stakeholders to work together to achieve the Port's goals of a vibrant, sustainable and competitive port with a workable pathway to reduced toxic air contaminants and a future goal of zero emissions.	Support/ Appreciation	Comment noted.

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PMSA-27	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	The goals laid out in the Plan are ambitious and aspirational. The maritime industry supports the transition to zero-emissions (ZE) operations provided that this transition is structured in such a way as to "keep the Port competitive, financially sustainable, and a catalyst for jobs and economic development." This important goal exists alongside the equally important goals of minimizing emissions, building partnerships and providing meaningful stakeholder engagement. Those goals can only all occur if we can remain competitive, grow our business and generate the revenue and jobs necessary to achieve them.	Financial Feasibility	Comment noted. One of the five goals of the Plan is to keep the Port competitive, financially sustainable, and a catalyst for jobs and economic development. The Plan recognizes that adequate Port revenues are required for the Port to implement the Plan.
PMSA-28	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	The Port of Oakland is a large port, but it suffers from a loss of market share when compared to all relevant ports serving California and the greater United States (see chart below). The benefit of a growing national economy over the last 8 years has provided a buffer to this loss of market share through growth in total US cargo volumes, but the overall growth volumes mask cracks in the traditional strengths of west coast ports.	Financial Feasibility	The Port is aware of the trend that the Pacific Merchant Shipping Association (PMSA) references and the competitive landscape. For this reason, the Plan includes a screening and feasibility evaluation process for Implementing Actions. The final Plan also clarifies that Selected Actions (actions recommended for implementation) will go through the Port's established project implementation process, which includes developing a budget estimate and obtaining Board approval of expenditures.
PMSA-29	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	We are hopeful that the Port can reverse this trend, and the Port's recent investments and commitment to maritime trade offer promise. Such growth will be essential for the tenants of the Port of Oakland to remain competitive and able to make the investments in cleaner equipment economically feasible.	Financial Feasibility	The Port is aware that the financial health of its tenants and customers is critical to continued investment in the Port, and in new clean technologies. The Plan is based on the recognition that investments must be feasible (financially and otherwise). The Port is continually working to sustain and grow cargo movement through the Port.
PMSA-30	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	The Plan assumes continued cargo volume growth of 2% per year (Appendix A-3). We are optimistic for the future of the Port and are hopeful that this projection will be achieved and possibly surpassed. The inclusion in the Plan for mechanisms to address this dynamic though the Feasibility Criteria for Implementing Actions, coupled with 5-year reviews should allow for corrections as needed through continued assessment of strategies for attaining the goals of the Plan.	Plan Update	The Port is aware that sustained 2% annual growth may be somewhat aggressive given the historical trend of cargo throughput in Oakland. The Port has revised Appendix A to reflect a projected growth rate between 1 and 2%. The Port has also revised the Plan to include an express reference to a review of cargo performance when evaluating feasibility (see revision to affordability criterion in Table 1 of the Main Text). The Port recognizes the importance of cargo volume (as distinguished from net revenue) to the financial health of the Port and its tenants and customers. The Plan's 5-year update and annual review of the NTAP will also consider the Port's growth rate and net revenue.
PMSA-31	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	The identification and detail provided for the Near-Term Action Plan for 2019-2023 provides a roadmap for emission reduction projects that are either underway or in the planning or scoping stages. It is of benefit to both the community and the tenants to have such a roadmap laid out for the near-term to provide for anticipated emission reductions and potential cost impacts respectively; at least to the extent that the dynamics at the port and the state of technology and funding allows.	NTAP	Comment noted.
PMSA-32	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	We appreciate the inclusion of the promised economic analysis of the emission reduction strategies identified in the Plan, as outlined in Appendix F.	Support/ Appreciation	Comment noted.

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PMSA-33	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	We note that the full extent of the goals of ZE at the Port has not been included in the analysis due to the lack of mature technologies and consequent lack of accurate cost estimates. The analysis provides estimates for more mature technologies such as ZE and NZE on-road trucks and some cargo handling equipment (CHE); though most ZE or NZE CHE are either in the very early stages of development or still several years away from commercial availability. This is especially true for operations at the Port of Oakland that may not lend themselves to full automation.	Appendix F	This comment is consistent with the overall goals of Appendix F, as discussed in response to Comment Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning to Assist with Electric Infrastructure Planning.
PMSA-34	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	The lack of data to analyze and estimate costs beyond what is included in Appendix F is understandable and we appreciate the hesitancy to predict costs and feasibility beyond information at hand, however as a reference point a study by Moffett & Nichols in 2015 estimated capital expenditure and O&M costs for ZE operations under Oakland's in the billions of dollars. We would encourage the Port to review this document for guidance.	Financial Feasibility, Appendix F	The Port has reviewed the study referenced by PMSA. Feasibility studies and assessments are a requisite first step in the project delivery process. The range of outcomes associated with feasibility studies, including cost assessments, will assist with decision-making and inform subsequent, more refined analyses.
PMSA-35	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	PMSA's members are committed to helping make the goals of the Plan a success, and are looking forward to working with port staff and other stakeholders to enable the visions of the Plan. The staff at PMSA is happy to answer any questions or concerns that the port may have and are always available to engage on these important issues.	Support/ Appreciation	Comment noted.
DockTime-2	27-Jan-19	Email	Khamly Chuop	DockTime	Chris Chang	None	I hope you will work with us to lobby all who will listen that a dedicated EV lane into the terminals will speed adoption of EV's more so than the HOV lane on the Bay Bridge.	Implementing Action	The Port compiled all new Suggested Actions included in comment letters (or attachments to comment letters) on the Draft or Revised Draft 2020 and Beyond Plan in Table C-3: New Suggested Actions in Appendix C, including this Suggested Action for a Dedicated Zero-Emissions Vehicle Lane into Marine Terminals.
GSPP-59	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We open with a note of appreciation for the decision by Port management and staff to produce a Revised Draft, respond to comments on the initial draft and to allow an additional comment period on the Revised Draft. We are strongly supportive of the decision to make air quality improvement a strategic and organizational priority for the Port of Oakland (Port). We support the Port's vision of creating a pathway to zero-emissions for Seaport operations through changes in equipment, operations, fuels, and infrastructure. We support the Port's commitment to undertake regular updates to the plan, and research into the rapidly changing technology and markets for zero emission infrastructure and fleets. These commitments are important to the broader objective of achieving greater equity, and environmental fairness for the people of West Oakland. These commitments are also important to efforts to reduce greenhouse gas emissions that have global equity and existential implications for human populations and economic balance.	Support/ Appreciation	Comment noted.

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GSPP-60	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Revised Draft Air Quality Plan comes at a time of rapid changes in transportation, battery-storage and air pollution control technology. In general, we remain supportive of the Plan's aspiration to achieve zero-emissions from operations at the Port. The Revised Plan contains several improvements over the Initial Draft, and we applaud the Port Staff's effort to thoughtfully respond to the first round of comments. We also believe several additional changes would strengthen the Plan and help ensure the Port of Oakland is recognized as a leader in efforts to decarbonize port operations and reduce exposure to diesel particulate matter in nearby residential communities.	Port Commitments	Comment noted
GSPP-61	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Track Cost/Availability of Electric Drives:** Establish a system by which to collect current information on cost and availability of electric trucks and charging equipment.	Implementing Action	The Port is tracking the development of various types of electric equipment, and some cost information will be obtained as part of that process. Also, costs will be checked when the Port conducts a feasibility evaluation of Screened Actions. As OEMs progress in their development of electric technology, they will undoubtedly be reaching out to potential purchasers. In addition, the Port has added a Suggested Action to Track Cost/Availability of Electric Drive Technology to Table C-3: New Suggested Actions of Appendix C: Suggested Actions.
GSPP-62	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Find and Fix High Polluting Trucks**: Establish a work group to plan, construct and operate a system to identify highly emitting diesel trucks entering the Port, and to require repair as a condition of Port Access.	Implementing Actions	See the response to Comment GSPP-76.
GSPP-63	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Trucking Duty Cycle Data Collection**: Establish a research effort to collect information on duty cycle of diesel trucks and cargo handling equipment serving the Port.	Implementing Action	The Port added this suggestion as a Suggested Action to Table C-3: New Suggested Actions in Appendix C (New Suggested Action 159: Collect Trucking Duty-Cycle Data and Identify Trucks Suitable for Electrification).
GSPP-64	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Electric Supply/Charging Infrastructure Work Group**: Establish a work group of interested stakeholders to regularly meet to discuss and plan electric supply and battery charging infrastructure at or near the Port and to maximize access to state funding for electrification.	Stakeholder Engagement	See the response to Comment GSPP-85.
GSPP-65	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Distributed Clean Energy Potential Study**: Prepare a renewable energy potential study for land, buildings and equipment at the Port.	Infrastructure	See the response to Comment GSPP-86.
GSPP-66	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Differential Ship Berthing and Truck Access Rates**: Establish ship berthing and truck access fees that reward: 1) ships with lower in-transit or at berth emissions; and, 2) zero emission trucks.	Implementing Actions	Similar actions are already included and described in Appendix C (Suggested Actions O-6 and FG-4; see also Table C-2: Suggested Actions for a listing of Suggested Actions). The Port has added Implementing Action FG-4 Track SPBP Truck Rate Study to the NTAP (see Table 2 of the Main Text). See also the response to Comment Topic #6: Grants, Incentives, and Funding Mechanisms.
GSPP-67	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Vehicle Electrification Goals:** Set more specific goals and target dates by which certain segments of diesel equipment operating within the Port will transition to electrification. At a minimum this should include several hundred yard-trucks, and perhaps a thousand drayage trucks with short-haul duty cycles.	Targets/ Goals	See the response to Comment Topic #8: Goals.

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GSPP-68	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Port Emission Inventory**: Revise the Port's emission inventory to include a more complete estimate of emissions from trucks serving the port.	EIs	See the response to Comment Topic #4: Emissions Inventories.
GSPP-69	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Track Cost/Availability of Electric Drives** - Costs of electric drive, battery and charging technology are declining very rapidly. Availability of electric powered trucking and cargo handling equipment is expected to expand quickly in 2019-2021. Sound decisions by the Port, its tenants and supporting service industries, about infrastructure and fleets investment require up-to-date information on equipment price and availability with which to compare to conventional, fossil-fuel powered trucking options.	Data Collection	The Port is tracking the development of various types of battery-electric equipment, and some cost information will be obtained as part of that process. Also, costs will be checked when Implementing Actions are evaluated as part of the five-step screening process. As original equipment manufacturers (OEMs) progress in their development of electric technology, they will undoubtedly be reaching out to potential purchasers. In addition, the Port has added an Implementing Action, Track Cost/Availability of Electric Drives, to Table C-3: New Suggested Actions in Appendix C: Suggested Actions.
GSPP-70	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Our general sense is that the Port's assessment of cost and availability of electric-drive and charging technology is somewhat conservative and understates the opportunities that will be presented in the market in the near-term.	Appendix F	See response to Comment EJ/WOEIP-50.
GSPP-71	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	For example, the Revised draft states, '…if HVIP funding continues to be available under the current terms, battery- electric yard tractors could reach cost parity with diesel-fueled equipment by 2027; if no incentive funding is available, cost parity may not be achieved until 2038 or later."	Appendix F	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning .
GSPP-72	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Other sources suggest parity could occur sooner than 2027, and that in the interim, state financial incentives will create an artificial parity and opportunities to integrate substantial numbers of yard trucks and other diesel equipment into Port, tenant and service industry operations. We acknowledge that reasonable minds may differ on how quickly electric drives will be available in such quality, quantity and price to cost effectively replace other diesel equipment. But trends in battery technology costs suggest that electric drive technology may become competitive with new diesel equipment relatively soon for certain types of equipment, especially if oil prices rise again.	Appendix F	See response to Comment EJ/WOEIP-50.
GSPP-73	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Port, its tenants, and its service industries need access to current and reasonably accurate data on cost and availability. The Port could contract for regular delivery and dissemination of such data, or could generate information from periodic, aggregated, requests for proposals (RFPs) developed collaboratively with other entities operating at the Port.	Data Collection	See the response to Comment GSPP-69.
GSPP-74	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We also encourage the Port to collaborate with other West Coast ports on RFPs, and develop a group buying system to help lower upfront costs of zero-emission equipment.	Implementing Actions	New Suggested Actions, such as this suggestion to Develop a Group Buying System, are included in Table C-3: New Suggested Actions in Appendix C.

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GSPP-75	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Find and Fix High Polluting Trucks**[2] [Footnote 2: [2]We included a broad initial comment on the creation of a Find and Fix plan in our September comments (pg 9), but have added greater detail on the program implementation in Appendix A. We recognize that the Port does not directly regulate trucks, but we believe that the Port would be within its rights to refuse access to vehicles that are likely in violation of air quality standards. The Center would welcome the opportunity to help convene and manage a work group this subject and to coordinate with BAAQMD and CARB on related monitoring studies.]	Implementing Actions	See the response to GSPP-102.
GSPP-76	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Recent studies by UC Berkeley researchers show that a significant percentage of trucks entering the Port have faulty air pollution control systems. A system to "find and fix" these vehicles, coupled with information on state financial assistance for vehicle upgrades and repairs could produce short-term air quality benefits to people of West Oakland.	Implementing Actions	See the response to GSPP-102. In addition, the Port has added a new Suggested Action to Repair High-Emitting Trucks to Table C-3: New Suggested Actions in Appendix C.
GSPP-77	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We propose that the Port help assemble and participate in a Work Group to establish such a system, using the Port's authority to control access to Port facilities as a means to enforce correction of emission controls.	Implementing Actions	See the response to GSPP-102.
GSPP-78	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	In appendix A to these comments we set forth a set of objectives for a Work-Group and a set of questions to be addressed.	Implementing Actions	See the response to GSPP-102.
GSPP-79	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Trucking Duty-Cycle Data -** The Port's commitment to zero emission operations would be aided by collection of data on Trucking Duty-Cycles. Currently there does not appear to be an inventory of the full range of diesel equipment operating within, and around the Port.	Data Collection	The Port agrees that having detailed information on truck duty cycles would be helpful for setting priorities in the Plan. However, as described in response to Comment GSPP-82, the Port relies on research by others. Although a complete equipment inventory has not been assembled, the information is available from a combination of sources. For example, the Port has collected information on the quantities of the various types of container handling equipment owned by its tenants, and the Port's Secure Truck Enrollment Program is a registry of all trucks that are cleared to call on marine terminals at the Port. In addition, the Port has added an Implementing Action, Collect Trucking Duty-Cycle Data and Identify Trucks Suitable for Electrification, to Table C-3: New Suggested Actions in Appendix C.
GSPP-80	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Such data is needed to help target financial incentives, forecast need for supporting infrastructure and identify those segments of the transport sector that are most ripe for electric drive technology.	Data Collection	See the response to Comment Topic #10: Infrastructure and response to Comment GSPP-82. To the degree that these types of data become available through research and data collection efforts by other organizations, the Port will consider them in its identification and evaluation of Implementing Actions. The annual review of the Near-Term Action Plan (NTAP) will reflect the outcome of any such Implementing Action evaluation. These types of data would also be used in the Plan Update in 2023.
GSPP-81	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	This data is potentially available from Port Tenants, trucking companies serving Port functions or from private services. The Port, perhaps in cooperation with state agencies or University of California Centers, could collect the data in a form that protects confidentiality, but helps identify trucks that: 1) are approaching retirement; 2) have predictable duty cycles that could be served by electric drives.	Data Collection	See the response to Comment GSPP-82.

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GSPP-82	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Our guess is that this data could identify dozens or even hundreds of trucks per year that would be amenable, practically and economically, to electrification.	Data Collection	The Port is supportive of efforts to further characterize and understand the dynamics of freight movement; it relies on other organizations to research these types of data. For example, Alameda County Transportation Commission collected data at TraPac as part of the GoPort program. The Port is very interested in using the good data collected by others, such as University of California research programs, in its planning efforts. It would also be appropriate for these types of data to be collected by BAAQMD in the context of the AB 617 process.
GSPP-83	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	This information will likely be critical as new electric truck models become more available and allow the Port to prepare charging infrastructure and procedures.[3] [Footnote 3: [3] This could include planning for locations where trucks could charge, how charging fees would be assessed, and forecasted energy demand.]	Data Collection	See the response to Comment Topic #10: Infrastructure.
GSPP-84	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Electric Supply/Charging Infrastructure Work Group** - The Revised Plan includes several improvements concerning electrification infrastructure, but we believe the process needs to accelerate into order to take full advantage of state funding.	Infrastructure	See response to Comment Topic #10: Infrastructure. In addition, new Suggested Actions, such as the Suggested Action to create an Electric Supply/Charging Infrastructure Work Group, are include in Table C-3: New Suggested Actions in Appendix C.
GSPP-85	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	A formal work group dedicated to learning, planning and outreach on this subject would help ensure a transparent, inclusive and effective response to rapid changes in technology, funding, and markets.	Stakeholder Engagement	All Suggested Actions will be screened using the five-step screening and evaluation process (see Screening and Evaluation of Implementing Actions in the Main Text); the process includes the use of Working Sessions at the discretion of the Co-Chairs. The Co-Chairs will consider feedback from the Task Force to inform Working Sessions. These Working Sessions will be open to the Task Force and other new and *missing from the discussion* stakeholders (as referenced in 5.2 of the PEP). Also, an action to establish a High-Emitting Truck Detection System Work Group has been added to Table C-3: New Suggested Actions of Appendix C.
GSPP-86	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Distributed Clean Energy Potential Study** - Even from a BART train is it apparent that there is a large amount of roof space at the Port that could potentially host solar generation. Similarly, there are likely to be many locations where demand response, targeted energy efficiency retrofits, and batteries would help lower costs of electric supply infrastructure needed for vehicle electrification and help avoid energy demand peaks due to growing vehicle energy charging demand. Wind turbines take up very little surface area and can operate above other port operations (just as they do above agricultural activity in other locations).	Infrastructure	See response to Comment Topic #10: Infrastructure. In addition, the Port has added the Suggested Action to conduct a Distributed Clean Energy Potential Study to Table C-3: New Suggested Actions in Appendix C.
GSPP-87	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	In anticipation of demand from charging infrastructure, a study of distributed clean energy potential at the Port is necessary to ensure that the Port is able meet increased demand in a sustainable, and economic fashion.	Infrastructure	See response to Comment Topic #10: Infrastructure. In addition, the Port has added the Suggested Action to conduct a Distributed Clean Energy Potential Study to Table C-3: New Suggested Actions in Appendix C.
GSPP-88	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Differential Ship Berthing and Truck Access Rates[4] [Footnote [4]: 4 This comment is repeated from CEPP's September 25, 2018 comment letter (See page 4). The Response to Comments addressed our original comment, we still believe that offering differential rates is a feasible and appropriate measure to phase in over time. Other California Ports, such as Los Angeles and Long Beach have developed a plan to charge differential access rates. At a minimum we request that the Port to commit to evaluating the feasibility of an entrance fee structure to be instituted by 2026 (three years after the entry fees for non-near zero trucks will become effective in Los Angeles).]	Implementing Actions	See the response to Comment GSPP-66.

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GSPP-89	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Port needs a source of revenue to support infrastructure and other expenses of the transition to zero emission operations.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
GSPP-90	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	It also needs to establish incentives to encourage ship and truck owners to shift equipment to zero carbon technology.	Implementing Actions	See the response to Comment GSPP-66.
GSPP-91	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Port should commit to study and establish a set of access charges or preferential access rules that will gradually create revenues and incentives for investment in low carbon vessels and vehicles.	Targets/ Goals	The Port is tracking the truck rate study that was recently started by the SPBP. The Port will determine whether it is appropriate for the Port to consider a truck rate study following the outcome of the SPBP study. In addition, a Suggested Action to Conduct Truck Rate Study has been added to Table C-3: New Suggested Actions in Appendix C. See also the response to Comment Topic #8: Goals.
GSPP-92	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Vehicle Electrification Goals -** As was stated in our earlier comments, the Port should establish more precise goals for electrification of yard trucks and other equipment that are amenable to electrification in the near to mid-term.	Targets/ Goals	See the response to Comment Topic #8: Goals.
GSPP-93	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We recognize the Port's concern regarding the upfront cost of electric equipment, but continue to believe that the reduced operational costs, health benefits, and the availability of incentives will make it economical for the Port to move to electric equipment in the near term.	Financial Feasibility	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning.
GSPP-94	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We acknowledge that it is difficult to forecast technology and pricing, but we encourage the Port to set more ambitious measurable targets for electrification. Specifically, we reiterate the goals we stated in our September 2018 Comments:	Targets/ Goals	See the response to Comment Topic #8: Goals.
GSPP-95	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· Establish a plan to gradually move yard hostler equipment from diesel to electric drive technology, with a goal to replace half of the yard hostler fleet with electric drives by 2025 and complete replacement by 2030.	Targets/ Goals	See the response to Comment Topic #8: Goals. In addition, the Port added a new Suggested Action, Yard Hostler Transition Plan, to Table C-3: New Suggested Actions in Appendix C.
GSPP-96	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· Modify port electric supply infrastructure to accommodate a complete yard hostler transition to electric drives by 2030.	Targets/ Goals	See the response to Comment Topic #8: Goals.
GSPP-97	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· Achieve a gradual/sustained increase in power supply and charging equipment for drayage trucks that bring containers to and from the Port.	Targets/ Goals	See the response to Comment Topic #8: Goals.

Table RTC-3: Responses to Comments on the Revised Draft Seaport Air Quality 2020 and Beyond Plan (December 14, 2018), by Date and Commenter Affiliation

Comment Number	Comment Received Date	Comment Receipt Type	Comment Received by	Affiliation	Name	Attachments	Comment	Comment Category	Response
GSPP-98	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Port Emission Inventory**[5] [Footnote 5: [5] We first raised this concern in our September comment letter (page 4) and are repeating it because we do not believe that it was adequately addressed. In addition to the equipment located directly on Port property, trucks conducting business at the Port are a major source of air pollution and greenhouse gas emissions, both on Port Property and within the surrounding areas. Including these sources in the emission inventory will provide greater clarity to the pollution burden faced by the surrounding communities and illuminate additional strategies to reduce the Port's environmental impact.]	EIs	See the response to Comment Topic #4: Emissions Inventories.
GSPP-99	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Port's December 2018 Response to Comments explains that the emission domains in the Emission inventory (EI) were developed in consultation with BAAQMD and CARB and that to expand the domains to include "first point of rest" would "not increase the possibility for meaningful comparison to other ports" (RTC page 14). It further states that the primary function of the EI is to monitor the Port's progress toward the original MAQIP goal for reduction of diesel particulate matter emissions associated with Seaport operations relative to the 2005 baseline (RTC page 14). This does not address the underlying concern that we and other commenters raised—that it is appropriate for the Port to consider emissions from trucks whose primary operation in the region is to conduct Port related business as part of the "Seaport operations."	EIs	See the response to Comment Topic #4: Emissions Inventories.
GSPP-100	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We believe this would be appropriate because the Port has a unique ability to influence the behavior of truck operators. Examples of this can be seen through our suggestions for the "Find and Fix High Polluting Trucks" and "Differential Ship Berthing and Truck Access Rates."	Port Role	The West Oakland Truck Management Plan (TMP), a related plan, is designed to reduce the effects of trucks on local streets in West Oakland.
GSPP-101	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Not including these vehicles in the EI and not including them in any metrics may reduce resolve for the Port to take steps to reduce vehicle emissions and reduce the health burden faced by surrounding communities.	EIs	See the response to Comment Topic #4: Emissions Inventories.
GSPP-102	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Programs such as the "Find and Fix" could also reasonably implemented in the short-term as part of an AB 617 measure, at a relatively low cost to the Port.	Implementing Actions	New Suggested Actions, such as this suggestion to Develop a High-Emitting Truck Detection System, are included in Table C-3: New Suggested Actions in Appendix C. As discussed in the February 13, 2019 meeting with GSPP (CEPP), more information is needed before the Port can fully consider this potential Implementing Action. Depending on the outcome of the additional information gathering by GSPP, the Port is available to participate a working group convened by GSPP to further evaluate this Suggested Action.
GSPP-103	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We believe that such programs are innovative, and that the Port should be able to receive credit for their implementation.	Implementing Actions	Comment noted. See also the response to Comment GSPP-104.

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Comment Number	Comment Received Date	Comment Receipt Type	Comment Received by	Affiliation	Name	Attachments	Comment	Comment Category	Response
GSPP-104	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	And one of the best ways to do that is to measure the emission reduction associated with their implementation and give the Port credit for their role in creating such a reduction.	Implementing Actions	Comment noted. The Port measures emissions reductions through its periodic emissions inventories, and the Port also tracks shore power compliance. The Port publishes these data and results. The Port agrees that tracking the results of emissions reductions is important so that the Port can document its progress toward its Maritime Air Quality Improvement Plan goal of reducing diesel particulate matter 85% from the 2005 baseline.
GSPP-105	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We reiterate that this can be done without disrupting the existing inventory methodology. The Port can add a component to the inventory methodology, in a way that preserves an apples-to- apples comparison between past and future inventories, and with the inventories of other ports. Other ports have adopted this approach.[6] [Footnote 6: [6] Our understanding is that the Port of Rotterdam has adopted this approach to assess 24.8 million tonnes transportation emissions associated with its operations. See, Wuppertal Institute, Synthesis Report, Deep Decarbonization Pathways for Transport and Logistics Related to the Port of Rotterdam, April 2018 https://www.portofrotterdam.com/sites/default/files/wuppertal_institut_2018_decarbonization_of_transport_and_logistics_synthesis_report.pdf.]	EIs	See the response to Comment Topic #4: Emissions Inventories.
GSPP-106	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Electricity** - CEPP supports statements in the revised draft plant that establish a presumption that electricity will be predominant source of energy that will replace diesel engines. CEPP supports the following statement in Strategy 3: Develop Required Infrastructure to Support Pathway to Zero Emissions. Strategy #3 focuses on the infrastructure required to transition to zero-emissions operations, with the presumption that the predominant source of power will be electricity. This will require the Port and its tenants to pay for upgrades to existing systems, increase system resilience (i.e., backup capacity), and build new infrastructure, including information technology systems to improve goods movement efficiency. The Port will plan and coordinate electrical system upgrades in areas served by the Port as a utility. The Port will work jointly with the terminal operators, off-dock tenants, and equipment owners located in these areas. The Port and its tenants will work with Pacific Gas & Electric Company (PG&E) in the PG&E-serviced areas. See Figure 2 for service areas. Strategy #3 provides flexibility for other technology options (such as hydrogen-powered equipment) to provide power for zero-emissions equipment and operations.	Support/ Appreciation	Comment noted.
GSPP-107	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We recognize that some forms of propulsion are not amenable to electrification, including long- haul trucks, transoceanic ships and some harbor-craft. The Port will, sooner or later need to assess how to meet fossil-free fuel requirements for these important elements of shipping.	Non- Fossil Fueling for Ships and Long-Haul Trucks	See response to Comment Topic #10: Infrastructure.

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GSPP-108	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The International Maritime Organization (IMO) has already acted to reduce sulfur content of bunker fuel, a move that is causing changes in fuel markets and ship design. It has also set a greenhouse gas emission reduction target that strongly suggests a move, over the long term, away from fossil fuels for ships. The Oakland Port will eventually face market demand for non- fossil fueling infrastructure for ships and long haul trucks.	Non- Fossil Fueling for Ships and Long-Haul Trucks	See response to Comment Topic #10: Infrastructure.
GSPP-109	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Now is a good time to begin long range planning to assess how to meet renewable hydrogen, or hydrogen/ammonia demand for ship and long haul trucking.	Non- Fossil Fueling for Ships and Long-Haul Trucks	See response to Comment Topic #10: Infrastructure. In addition, the Port has added the Suggested Action to conduct Long-Range Plannig for Zero-Emissions Fuels for OGV, HC, and Long-Haul Trucks to Table C-3: New Suggested Actions in Appendix C.
GSPP-110	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Hydrogen ferries are, or will soon be operating in the San Francisco Bay. The long term competitiveness of the Port of Oakland may depend on early planning to assess how to fuel ships with near zero-carbon fuels, and take advantage of local supplies of renewable hydrogen feedstocks (e.g. EBMUD Wastewater facility, food-agriculture-forestry bio-waste diversion).	Non- Fossil Fueling for Ships and Long-Haul Trucks	See response to Comment Topic #10: Infrastructure. In addition, the Port added a new Suggested Action, Local Supplies of Renewable Hydrogen Feedstocks to Table C-3: New Suggested Actions of Appendix C.
GSPP-111	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Seaport Air Quality 2020 & Beyond planning process is an opportunity to strengthen the long-term competitiveness and economic viability of Oakland as a major trade portal.	Port Competitiveness	The Port agrees that the Seaport Air Quality 2020 and Beyond planning process is an opportunity to strengthen the long-term competitiveness and economic viability of the Port of Oakland. Economic competitiveness is one of the five goals of the plan, and a core planning principle.
GSPP-112	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The opportunities presented by changes in transport technology, and the emerging crisis over extreme weather events, require strong leadership by the Port and City of Oakland. Action on the recommendations in these comments will help secure long-term fuel cost savings, improve public health, and help stabilize climate. We urge the Board and Staff to take the long view, and in this plan lay a solid foundation for a clean and prosperous Port.	Benefits of Recommendations	Comment noted. The Port is carefully considering all comments received and has met with representatives of the Goldman School's Center for Environmental Public Policy to discuss some of the comments in their letter. The Plan takes the long view and provides a phased time frame for implementation.

Table RTC-4: Responses to Comments on the Revised Draft Seaport Air Quality 2020 and Beyond Plan (December 14, 2018), by Topic Category

Comment Number	Comment Received Date	Comment Receipt Type	Comment Received by	Affiliation	Name	Attachments	Comment	Comment Category	Response
BAAQMD-25	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	The Air District can specifically help by sharing the data and health metrics being developed as part of the technical studies in support of the West Oakland Community Action Plan.	AB 617	The Port appreciates the Air District's willingness to share data and health metrics. The Port will use the information provided in BAAQMD's Draft 2019 West Oakland Health Risk Assessment (Draft 2019 HRA), and has incorporated the findings from the Draft 2019 HRA (as presented to the West Oakland Community Air Action Plan [WOCAAP] Steering Committee on March 6, 2019) into Appendix B. See also the response to Comment Topic #2: Community Health Risk and AB 617.
CARB-56	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	The Port can position itself, its tenants, and its transportation operators, to leverage funds and planning efforts to improve air quality and system efficiencies in a way that serves the community and the Port's bottom line.	AB 617	The Port is committed to the improving air quality in West Oakland through participation in the WOCAAP Steering Committee. As a member of the Steering Committee, the Port supports those efforts by advising and informing the development of the WOCAAP. See also the response to Comment Topic #2: Community Health Risk and AB 617. The Port will continue to pursue grant funding as discussed in the response to Comment Topic #6: Grants, Incentives and Funding Mechanisms.
CARB-54	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Since we submitted our initial comment letter on the Draft 2020 Plan (attached), CARB's governing board identified West Oakland as one of the 10 initial communities for focused action pursuant to Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017). As a selected community with high cumulative exposure burden to air pollution, more aggressive near-term actions to improve public health are critical to dovetail with the five-year planning horizons for West Oakland.	AB 617	See the response to Comment CARB-56.
CARB-55	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Echoing the comment from Ms. Margaret Gordon of the West Oakland Environmental Indicators Project during the January 10, 2019 Task Force Meeting, we agree there needs to be merging of the AB 617 effort for West Oakland and the Revised 2020 Plan to achieve "mitigations for workers and residents nearby the Port."	AB 617	See the response to Comment CARB-56. Coordination between the Port and the West Oakland Clean Air Action Plan (WOCAAP) Steering Committee includes both the Port's 2020 and Beyond process and the West Oakland Truck Management Plan (TMP) process. See also the response to Comment Topic #2: Community Health Risk and AB 617.
CARB-75	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• Adjustments to cost methodology in Appendix F. We request two edits to this section: 1. The cost analysis for operating expenditures (OpEx) does not include a recently available credit through CARB's Low Carbon Fuel Standard (LCFS) beginning in 2019. Yard tractors, other cargo handling equipment, transport refrigeration units, and ocean-going vessels at berth are now eligible for generation and sale of credits for zero-emission operation. In some cases, including yard tractors, credit sale revenues may exceed the assumed cost of electricity at $0.15/kW-hr. The Port should revise OpEx assumptions to account for LCFS credit values. 2. Figure F.10 presents the expected year that a single year of operating expenditures will be less than the increased capital cost of a zero-emission yard tractor, both with and without the current vouchers. The target dates of 2022 and 2038 do not provide a useful statistic because many yard tractors are operated for five years or longer. Instead, we suggest presenting the operational time (with cost savings realized over several years) to break even in a specific calendar year.	Appendix F	See the response to Comment Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning regarding the low-carbon fuel standard. An expected lifespan of 8 years for all on-dock yard tractors has been factored into calculations for both Figures F.10 and F.11 in the updated document.

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Comment Number	Comment Received Date	Comment Receipt Type	Comment Received by	Affiliation	Name	Attachments	Comment	Comment Category	Response
PMSA-33	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	We note that the full extent of the goals of ZE at the Port has not been included in the analysis due to the lack of mature technologies and consequent lack of accurate cost estimates. The analysis provides estimates for more mature technologies such as ZE and NZE on-road trucks and some cargo handling equipment (CHE); though most ZE or NZE CHE are either in the very early stages of development or still several years away from commercial availability. This is especially true for operations at the Port of Oakland that may not lend themselves to full automation.	Appendix F	This comment is consistent with the overall goals of Appendix F, as discussed in response to Comment Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning to Assist with Electric Infrastructure Planning.
BAAQMD-35	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	The conceptual yard truck replacement scheme discussed in Appendix F is very useful in understanding many of the economic and technical issues in moving to zero emissions.	Appendix F	Comment noted.
BAAQMD-36	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	We encourage the Port to extend this analysis to other types of cargo handling equipment. The extended analysis should utilize the fleet data from the 2017 Seaport Emissions Inventory to determine the replacement rate.	Appendix F	See the response to Comment Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning. The Port will extend the cost comparison for diesel versus electric or hybrid equipment to additional equipment types, once these other equipment types are proven feasible and sufficient cost and operating data exist for a robust, meaningful analysis. The equipment data used in Appendix F were obtained from the marine terminal operators, and are consistent with what would be expected based on industry standards.
BAAQMD-37	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	We also encourage the Port to consider the costs involved with an accelerated turnover rate, in addition to assuming equipment will only be replaced at the end of its useful life.	Appendix F	These costs have not been analyzed as a key planning assumption in Appendix F is to avoid stranded assets (i.e., to avoid retiring equipment before the end of its useful life).
EJ/WOEIP-34	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The cost analysis provided in Appendix F uses several flawed or outdated assumptions that the updated Plan must correct. First, the Plan assumes yard tractors currently cost $300,000. That price should be $250,000. Second, the Plan assumes a 200kWhr battery pack, when the standard is 250kWhr, and is likely to increase over time.	Appendix F	Appendix F used the best data available surveyed from current manufacturers of on-terminal yard tractors. Batteries of about 200kW are consistent with the top-end sizes of yard tractors currently in operation and planned for demonstration projects. Batteries may get larger over time, but Appendix F is focused on the Near-Term Phase for which these sizes are applicable. Recent purchasers of electric tractors have cited a cost range of $275,000 to $300,000 per tractor, not including sales tax. Up to 80% of the incremental cost (not including sales tax) is offset by Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) vouchers; another 15% off-set of the incremental cost is available in Disadvantaged Communities.
EJ/WOEIP-36	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Finally, the analysis artificially assumes that upfront capital costs must be recouped within one year. There is no basis for this assumption. Total costs of ownership will be lower for electrical yard tractors over their eight-year lifetime, and any need to see those returns sooner is a financing issue that, as discussed below, is within the Port's ability to influence.	Appendix F	The revised language in Appendix F clarifies that annual operational expense savings are included to provide a reference and context to demonstrate the importance of vouchers to offset high current on-terminal electric yard tractor purchase costs. Costs are not required to be recouped in a single year, and the cost comparisons in both Figures F.10 and F.11 reflect an 8-year tractor life. The response to Comment Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning addresses the issue of the required return on investment.
EJ/WOEIP-37	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	By correcting these assumptions, we expect the analysis would show that a much more rapid adoption of zero-emissions yard trucks is not only be feasible but desirable.	Appendix F	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning.

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EJ/WOEIP-50	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	In other words, even if operators are buying used diesel trucks, an electric drayage truck could pay for itself in the very short-term, and the turnover of existing equipment could be even faster than assumed in the draft analysis.	Appendix F	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning; a summary of results of the San Pedro Bay Port's (SPBP's) Draft 2018 Feasibility Assessment for Drayage Trucks added to the Drayage Truck section in Appendix F.
GSPP-70	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Our general sense is that the Port's assessment of cost and availability of electric-drive and charging technology is somewhat conservative and understates the opportunities that will be presented in the market in the near-term.	Appendix F	See response to Comment EJ/WOEIP-50.
GSPP-71	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	For example, the Revised draft states, '…if HVIP funding continues to be available under the current terms, battery- electric yard tractors could reach cost parity with diesel-fueled equipment by 2027; if no incentive funding is available, cost parity may not be achieved until 2038 or later."	Appendix F	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning .
GSPP-72	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Other sources suggest parity could occur sooner than 2027, and that in the interim, state financial incentives will create an artificial parity and opportunities to integrate substantial numbers of yard trucks and other diesel equipment into Port, tenant and service industry operations. We acknowledge that reasonable minds may differ on how quickly electric drives will be available in such quality, quantity and price to cost effectively replace other diesel equipment. But trends in battery technology costs suggest that electric drive technology may become competitive with new diesel equipment relatively soon for certain types of equipment, especially if oil prices rise again.	Appendix F	See response to Comment EJ/WOEIP-50.
EJ/WOEIP-35	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Third, the analysis fails to include the low-carbon fuel standard ("LCFS") credits that could more than offset fuel costs for electric cargo handling equipment.	Appendix F	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning .
GSPP-112	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The opportunities presented by changes in transport technology, and the emerging crisis over extreme weather events, require strong leadership by the Port and City of Oakland. Action on the recommendations in these comments will help secure long-term fuel cost savings, improve public health, and help stabilize climate. We urge the Board and Staff to take the long view, and in this plan lay a solid foundation for a clean and prosperous Port.	Benefits of Recommendations	Comment noted. The Port is carefully considering all comments received and has met with representatives of the Goldman School's Center for Environmental Public Policy to discuss some of the comments in their letter. The Plan takes the long view and provides a phased time frame for implementation.
GSPP-69	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Track Cost/Availability of Electric Drives** - Costs of electric drive, battery and charging technology are declining very rapidly. Availability of electric powered trucking and cargo handling equipment is expected to expand quickly in 2019-2021. Sound decisions by the Port, its tenants and supporting service industries, about infrastructure and fleets investment require up-to-date information on equipment price and availability with which to compare to conventional, fossil-fuel powered trucking options.	Data Collection	The Port is tracking the development of various types of battery-electric equipment, and some cost information will be obtained as part of that process. Also, costs will be checked when Implementing Actions are evaluated as part of the five-step screening process. As original equipment manufacturers (OEMs) progress in their development of electric technology, they will undoubtedly be reaching out to potential purchasers. In addition, the Port has added an Implementing Action, Track Cost/Availability of Electric Drives, to Table C-3: New Suggested Actions in Appendix C: Suggested Actions.
GSPP-73	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Port, its tenants, and its service industries need access to current and reasonably accurate data on cost and availability. The Port could contract for regular delivery and dissemination of such data, or could generate information from periodic, aggregated, requests for proposals (RFPs) developed collaboratively with other entities operating at the Port.	Data Collection	See the response to Comment GSPP-69.

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GSPP-82	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Our guess is that this data could identify dozens or even hundreds of trucks per year that would be amenable, practically and economically, to electrification.	Data Collection	The Port is supportive of efforts to further characterize and understand the dynamics of freight movement; it relies on other organizations to research these types of data. For example, Alameda County Transportation Commission collected data at TraPac as part of the GoPort program. The Port is very interested in using the good data collected by others, such as University of California research programs, in its planning efforts. It would also be appropriate for these types of data to be collected by BAAQMD in the context of the AB 617 process.
GSPP-83	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	This information will likely be critical as new electric truck models become more available and allow the Port to prepare charging infrastructure and procedures.[3] [Footnote 3: [3] This could include planning for locations where trucks could charge, how charging fees would be assessed, and forecasted energy demand.]	Data Collection	See the response to Comment Topic #10: Infrastructure.
GSPP-81	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	This data is potentially available from Port Tenants, trucking companies serving Port functions or from private services. The Port, perhaps in cooperation with state agencies or University of California Centers, could collect the data in a form that protects confidentiality, but helps identify trucks that: 1) are approaching retirement; 2) have predictable duty cycles that could be served by electric drives.	Data Collection	See the response to Comment GSPP-82.
GSPP-80	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Such data is needed to help target financial incentives, forecast need for supporting infrastructure and identify those segments of the transport sector that are most ripe for electric drive technology.	Data Collection	See the response to Comment Topic #10: Infrastructure and response to Comment GSPP-82. To the degree that these types of data become available through research and data collection efforts by other organizations, the Port will consider them in its identification and evaluation of Implementing Actions. The annual review of the Near-Term Action Plan (NTAP) will reflect the outcome of any such Implementing Action evaluation. These types of data would also be used in the Plan Update in 2023.
GSPP-79	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Trucking Duty-Cycle Data -** The Port's commitment to zero emission operations would be aided by collection of data on Trucking Duty-Cycles. Currently there does not appear to be an inventory of the full range of diesel equipment operating within, and around the Port.	Data Collection	The Port agrees that having detailed information on truck duty cycles would be helpful for setting priorities in the Plan. However, as described in response to Comment GSPP-82, the Port relies on research by others. Although a complete equipment inventory has not been assembled, the information is available from a combination of sources. For example, the Port has collected information on the quantities of the various types of container handling equipment owned by its tenants, and the Port's Secure Truck Enrollment Program is a registry of all trucks that are cleared to call on marine terminals at the Port. In addition, the Port has added an Implementing Action, Collect Trucking Duty-Cycle Data and Identify Trucks Suitable for Electrification, to Table C-3: New Suggested Actions in Appendix C.
GSPP-101	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Not including these vehicles in the EI and not including them in any metrics may reduce resolve for the Port to take steps to reduce vehicle emissions and reduce the health burden faced by surrounding communities.	EIs	See the response to Comment Topic #4: Emissions Inventories.

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CARB-73	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	The Port should further amend its Revised Draft 2020 Plan to include the following changes. • Geographic domain of the emission inventory. The 2015 and 2017 calendar year inventories underestimate port emissions because the methodologies do not attribute emissions from trucks or locomotives before they enter or after they leave the port boundary. The impact of the narrow domain in the Revised 2020 Plan is that the emission sources for trucks and locomotives appear disproportionately small relative to their actual impact to the surrounding community and air basin. We recognize that the contribution to the emission inventory may not be directly proportional to a source's cancer risk determined through a health risk assessment. However, it is essential that the Port direct its consultants to use available activity data and CARB on-road and off-road models to calculate emissions of trucks and locomotives outside the port boundary for cargo being transported to and from the port.	EIs	See the response to Comment Topic #4: Emissions Inventories.
GSPP-98	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Port Emission Inventory**[5] [Footnote 5: [5] We first raised this concern in our September comment letter (page 4) and are repeating it because we do not believe that it was adequately addressed. In addition to the equipment located directly on Port property, trucks conducting business at the Port are a major source of air pollution and greenhouse gas emissions, both on Port Property and within the surrounding areas. Including these sources in the emission inventory will provide greater clarity to the pollution burden faced by the surrounding communities and illuminate additional strategies to reduce the Port's environmental impact.]	EIs	See the response to Comment Topic #4: Emissions Inventories.
GSPP-99	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Port's December 2018 Response to Comments explains that the emission domains in the Emission inventory (EI) were developed in consultation with BAAQMD and CARB and that to expand the domains to include "first point of rest" would "not increase the possibility for meaningful comparison to other ports" (RTC page 14). It further states that the primary function of the EI is to monitor the Port's progress toward the original MAQIP goal for reduction of diesel particulate matter emissions associated with Seaport operations relative to the 2005 baseline (RTC page 14). This does not address the underlying concern that we and other commenters raised—that it is appropriate for the Port to consider emissions from trucks whose primary operation in the region is to conduct Port related business as part of the "Seaport operations."	EIs	See the response to Comment Topic #4: Emissions Inventories.

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GSPP-105	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We reiterate that this can be done without disrupting the existing inventory methodology. The Port can add a component to the inventory methodology, in a way that preserves an apples-to- apples comparison between past and future inventories, and with the inventories of other ports. Other ports have adopted this approach.[6] [Footnote 6: [6] Our understanding is that the Port of Rotterdam has adopted this approach to assess 24.8 million tonnes transportation emissions associated with its operations. See, Wuppertal Institute, Synthesis Report, Deep Decarbonization Pathways for Transport and Logistics Related to the Port of Rotterdam, April 2018 https://www.portofrotterdam.com/sites/default/files/wuppertal_institut_2018_decarbonization_of_transport_and_logistics_synthesis_report.pdf.]	EIs	See the response to Comment Topic #4: Emissions Inventories.
CPP-24	16-Jan-19	email	Surlene Grant	CenterPoint Properties	Ryan Oley	None	If EI's are completed by the Port, what effort will be required by tenants e.g. recordkeeping requirements, document submittals, etc?	EIs	As a landlord Port, the Port is in regular contact with its tenants. Tenants are asked to provide an inventory of their equipment, estimated hours of use for each piece of equipment (cumulative use and use for the given year or reporting period), and an estimate of their total fuel use.
GSPP-68	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Port Emission Inventory**: Revise the Port's emission inventory to include a more complete estimate of emissions from trucks serving the port.	EIs	See the response to Comment Topic #4: Emissions Inventories.
PMSA-27	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	The goals laid out in the Plan are ambitious and aspirational. The maritime industry supports the transition to zero-emissions (ZE) operations provided that this transition is structured in such a way as to "keep the Port competitive, financially sustainable, and a catalyst for jobs and economic development." This important goal exists alongside the equally important goals of minimizing emissions, building partnerships and providing meaningful stakeholder engagement. Those goals can only all occur if we can remain competitive, grow our business and generate the revenue and jobs necessary to achieve them.	Financial Feasibility	Comment noted. One of the five goals of the Plan is to keep the Port competitive, financially sustainable, and a catalyst for jobs and economic development. The Plan recognizes that adequate Port revenues are required for the Port to implement the Plan.
PMSA-29	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	We are hopeful that the Port can reverse this trend, and the Port's recent investments and commitment to maritime trade offer promise. Such growth will be essential for the tenants of the Port of Oakland to remain competitive and able to make the investments in cleaner equipment economically feasible.	Financial Feasibility	The Port is aware that the financial health of its tenants and customers is critical to continued investment in the Port, and in new clean technologies. The Plan is based on the recognition that investments must be feasible (financially and otherwise). The Port is continually working to sustain and grow cargo movement through the Port.
PMSA-28	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	The Port of Oakland is a large port, but it suffers from a loss of market share when compared to all relevant ports serving California and the greater United States (see chart below). The benefit of a growing national economy over the last 8 years has provided a buffer to this loss of market share through growth in total US cargo volumes, but the overall growth volumes mask cracks in the traditional strengths of west coast ports.	Financial Feasibility	The Port is aware of the trend that the Pacific Merchant Shipping Association (PMSA) references and the competitive landscape. For this reason, the Plan includes a screening and feasibility evaluation process for Implementing Actions. The final Plan also clarifies that Selected Actions (actions recommended for implementation) will go through the Port's established project implementation process, which includes developing a budget estimate and obtaining Board approval of expenditures.
EJ/WOEIP-48	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The California Air Resources Board ("CARB") and others have looked at the total cost of ownership and found that battery-electric drayage trucks, when HVIP incentives and LCFS credits are considered, are already cheaper than diesel drayage trucks.	Financial Feasibility	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning.

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EJ/WOEIP-49	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	With HVIP incentives for trucks used in disadvantaged communities ($150,000 + $15,000), a new $250,000 electric short-haul drayage truck will cost roughly $85,000 (excluding taxes and tariffs). With LCFS credits, operators could save another $50,000 per year in fuel costs.	Financial Feasibility	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning.
TF-59	10-Jan-19	Comment Card	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	None	Recommend an effort (staff or consultant) to regularly track price and availability of electric transport equipment. Costs are likely to fall quickly and outdated cost assumptions could result in poor decision-making.	Financial Feasibility	See the response to Comment GSPP-69.
GSPP-93	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We recognize the Port's concern regarding the upfront cost of electric equipment, but continue to believe that the reduced operational costs, health benefits, and the availability of incentives will make it economical for the Port to move to electric equipment in the near term.	Financial Feasibility	See the response to Topic #13: Appendix F - Operational Feasibility and Cost Assessment to Assist with Electric Infrastructure Planning.
PMSA-34	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	The lack of data to analyze and estimate costs beyond what is included in Appendix F is understandable and we appreciate the hesitancy to predict costs and feasibility beyond information at hand, however as a reference point a study by Moffett & Nichols in 2015 estimated capital expenditure and O&M costs for ZE operations under Oakland's in the billions of dollars. We would encourage the Port to review this document for guidance.	Financial Feasibility, Appendix F	The Port has reviewed the study referenced by PMSA. Feasibility studies and assessments are a requisite first step in the project delivery process. The range of outcomes associated with feasibility studies, including cost assessments, will assist with decision-making and inform subsequent, more refined analyses.
CPP-22	16-Jan-19	email	Surlene Grant	CenterPoint Properties	Ryan Oley	None	1. How will the Port determine how grants should be distributed amongst tenants or which tenants they assist in receiving incentives?	Funding	The Port will work with specific tenants on cost-effective grants when staff resources and appropriate grant opportunities are available. "Distribution" of grant and incentive funding would only be a consideration when several tenants join together with the Port to pursue specific funding. In that case, specific allocations would be made during the development of the grant proposal.
CARB-72	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Further, early adoption of advanced technologies will expand opportunities for local, State, and federal funding that typically sunset before statewide requirements take effect.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
BAAQMD-29	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	The Air District has invested well over $100 million in grant funding for clean vehicle and equipment Port-related projects over the past decade, and while the Air District anticipates that another $100 million in funding may be available over the next five to ten years for the purchase of zero emission equipment and trucks, these funds are subject to periodic review and renewal, are not guaranteed, and will be insufficient to meet the demand to achieve the Port's vision.	Funding	Comment noted. The Port recognizes that no single agency or organization will be able to provide all the funding required for the transition to a zero-emissions Seaport. The Port anticipates that funding will consist of grant funding from multiple sources, investments by the Port's tenants and the Port in its landowner capacity, and potentially investments by OEMs to accelerate technology development and deployment. See also the response to Comment Topic #6: Grants, Incentives, and Funding Mechanisms.
EJ/WOEIP-65	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	1. <u>Financing</u> The Plan fails to address comments pointing to the availability of various financing opportunities, including lease agreements, gate fees, and establishing revolving loan-funds.	Funding	The Port considered the various financing mechanisms proposed. As described in response to Comment Topic #6: Grants, Incentives, and Funding Mechanisms, the Port does not serve as a lending agency. All other applicable funding mechanisms will be considered when the Port evaluates the feasibility of specific Implementing Actions.
EJ/WOEIP-66	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Response to Comments notes the importance of incentive funds and states that the Port does not serve as a lending institution, but the Response does not explain why a revolving loan fund is not feasible.	Funding	See the response to Comment EJ/WOEIP-65.
EJ/WOEIP-67	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Gate fees, for example, can be used to create incentives for adopting zero-emissions alternatives while also creating funds that can be used for revolving loans or for other Port investments.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.

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EJ/WOEIP-70	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan also fails to note that private financing options are available (e.g., Generate Capital's partnership with BYD), which, when combined with the fact that total cost of ownership is likely lower for many types of zero-emissions trucks and alternatives, should make adoption of these alternatives financially desirable.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
EJ/WOEIP-69	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port should include operators in the lease negotiation process at an early stage to incentivize investment in zero-emissions technologies.	Funding	The Port is in on-going contact with [marine terminal] operators and other tenants. The Port's tenants are aware of the Port's commitment to a pathway to zero emissions as described in this Plan.
BAAQMD-28	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	The Revised Plan relies too heavily on non-Port sources of funding and others' efforts for the implementation of new clean technology, equipment, fuels, and infrastructure.	Funding	The Port invests significant resources in support of air quality initiatives and the pathway to zero emissions. For example, the Port entered into a Memorandum of Understanding (MOU) with the Port of Long Beach regarding a Zero and Near-Zero Emission Freight Facilities (ZANZEFF) grant to test new zero-emissions container-handling equipment and drayage trucks. In the MOU, the Port committed to provide at least $1.25 million in matching funds to design and construct ten electric charging stations. See also the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
BAAQMD-30	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	As such, the Port's Plan should evaluate and commit to strategies that are within the Port's authority, such as the implementation of container fees to generate revenue for Clean Air projects, the inclusion of conditions on tenants on future lease agreements to require clean and zero emissions technology, and a plan to expedite a coordinated effort to upgrade electrical capacity for all tenants.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
BAAQMD-31	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	We urge the Port to develop an alternative plan to achieve zero emissions that relies on funding and efforts from both Port and non-Port sources.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
GSPP-89	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Port needs a source of revenue to support infrastructure and other expenses of the transition to zero emission operations.	Funding	See the response to Topic #6: Grants, Incentives, and Funding Mechanisms.
GSPP-61	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Track Cost/Availability of Electric Drives:** Establish a system by which to collect current information on cost and availability of electric trucks and charging equipment.	Implementing Action	The Port is tracking the development of various types of electric equipment, and some cost information will be obtained as part of that process. Also, costs will be checked when the Port conducts a feasibility evaluation of Screened Actions. As OEMs progress in their development of electric technology, they will undoubtedly be reaching out to potential purchasers. In addition, the Port has added a Suggested Action to Track Cost/Availability of Electric Drive Technology to Table C-3: New Suggested Actions of Appendix C: Suggested Actions.
GSPP-63	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Trucking Duty Cycle Data Collection**: Establish a research effort to collect information on duty cycle of diesel trucks and cargo handling equipment serving the Port.	Implementing Action	The Port added this suggestion as a Suggested Action to Table C-3: New Suggested Actions in Appendix C (New Suggested Action 159: Collect Trucking Duty-Cycle Data and Identify Trucks Suitable for Electrification).
DockTime-2	27-Jan-19	Email	Khamly Chuop	DockTime	Chris Chang	None	I hope you will work with us to lobby all who will listen that a dedicated EV lane into the terminals will speed adoption of EV's more so than the HOV lane on the Bay Bridge.	Implementing Action	The Port compiled all new Suggested Actions included in comment letters (or attachments to comment letters) on the Draft or Revised Draft 2020 and Beyond Plan in Table C-3: New Suggested Actions in Appendix C, including this Suggested Action for a Dedicated Zero-Emissions Vehicle Lane into Marine Terminals.

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EJ/WOEIP-103	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Not only will such a solution reduce emissions, increase the returns on these vehicles due to greater use, and increase efficiency because the trucks will no longer need to be changed off-site, it will also reduce costs.	Implementing Actions	New Suggested Actions, such as this suggestion to Enable Yard Hostlers to Operate on Public Streets are included in Table C-3: New Suggested Actions in Appendix C.
GSPP-104	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	And one of the best ways to do that is to measure the emission reduction associated with their implementation and give the Port credit for their role in creating such a reduction.	Implementing Actions	Comment noted. The Port measures emissions reductions through its periodic emissions inventories, and the Port also tracks shore power compliance. The Port publishes these data and results. The Port agrees that tracking the results of emissions reductions is important so that the Port can document its progress toward its Maritime Air Quality Improvement Plan goal of reducing diesel particulate matter 85% from the 2005 baseline.
GSPP-103	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We believe that such programs are innovative, and that the Port should be able to receive credit for their implementation.	Implementing Actions	Comment noted. See also the response to Comment GSPP-104.
EJ/WOEIP-72	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port of Long Beach is hosting a workshop on private financing options. The Port of Oakland should do the same.	Implementing Actions	New Suggested Actions, such as this suggestion to Host Private Financing Workshop, are included in Table C-3: New Suggested Actions in Appendix C. See also the response to Comment Topic #5: Financial Feasibility.
GSPP-74	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We also encourage the Port to collaborate with other West Coast ports on RFPs, and develop a group buying system to help lower upfront costs of zero-emission equipment.	Implementing Actions	New Suggested Actions, such as this suggestion to Develop a Group Buying System, are included in Table C-3: New Suggested Actions in Appendix C.
GSPP-102	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Programs such as the “Find and Fix” could also reasonably implemented in the short-term as part of an AB 617 measure, at a relatively low cost to the Port.	Implementing Actions	New Suggested Actions, such as this suggestion to Develop a High-Emitting Truck Detection System, are included in Table C-3: New Suggested Actions in Appendix C. As discussed in the February 13, 2019 meeting with GSPP (CEPP), more information is needed before the Port can fully consider this potential Implementing Action. Depending on the outcome of the additional information gathering by GSPP, the Port is available to participate a working group convened by GSPP to further evaluate this Suggested Action.
GSPP-76	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Recent studies by UC Berkeley researchers show that a significant percentage of trucks entering the Port have faulty air pollution control systems. A system to “find and fix” these vehicles, coupled with information on state financial assistance for vehicle upgrades and repairs could produce short-term air quality benefits to people of West Oakland.	Implementing Actions	See the response to GSPP-102. In addition, the Port has added a new Suggested Action to Repair High-Emitting Trucks to Table C-3: New Suggested Actions in Appendix C.
GSPP-77	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We propose that the Port help assemble and participate in a Work Group to establish such a system, using the Port’s authority to control access to Port facilities as a means to enforce correction of emission controls.	Implementing Actions	See the response to GSPP-102.
GSPP-78	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	In appendix A to these comments we set forth a set of objectives for a Work-Group and a set of questions to be addressed.	Implementing Actions	See the response to GSPP-102.

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GSPP-75	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Find and Fix High Polluting Trucks**[2] [Footnote 2: [2]We included a broad initial comment on the creation of a Find and Fix plan in our September comments (pg 9), but have added greater detail on the program implementation in Appendix A. We recognize that the Port does not directly regulate trucks, but we believe that the Port would be within its rights to refuse access to vehicles that are likely in violation of air quality standards. The Center would welcome the opportunity to help convene and manage a work group this subject and to coordinate with BAAQMD and CARB on related monitoring studies.]	Implementing Actions	See the response to GSPP-102.
TF-60	10-Jan-19	Comment Card	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	None	Recommend forming workgroup to establish system to identify high emission trucks entering Port and to notify those truck owners to repair as condition of continuing to enter Port. It should be an automated system to reduce staff costs. CARB funding could be used for capital costs but Port cooperation is important.	Implementing Actions	See the response to GSPP-102.
EJ/WOEIP-68	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Lease agreements requiring, or rewarding, tenant improvements will provide long-term benefits to both the Port and the shipping companies themselves, many of whom have corporate commitments to greenhouse gas reductions.	Implementing Actions	Leases and tenant improvements are among the tools that can be used to promote the pathway to zero emissions. The Port includes a standard environmental exhibit in all new leases. The Environmental Exhibit has an air quality section. The Port can negotiate certain lease terms; however, the Port cannot impose lease terms unilaterally. The Port continues to coordinate with tenants regarding potential opportunities for emissions reductions.
EJ/WOEIP-61	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	We recognize that the Port has no direct control over these railyards, but the Port can work with railyard operators to create incentives to use available cleaner equipment.	Implementing Actions	New Suggested Actions, such as this suggested action to Provide Incentives to Railyard Operators to Use Cleaner Equipment, are included in Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-62	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Cleaner locomotive technologies are available, in particular for equipment that remains at the railyard.	Implementing Actions	Comment noted. Appendix C: Suggested Actions includes several Implementing Actions pertaining to cleaner equipment at railyards.
GSPP-66	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Differential Ship Berthing and Truck Access Rates**: Establish ship berthing and truck access fees that reward: 1) ships with lower in-transit or at berth emissions; and, 2) zero emission trucks.	Implementing Actions	Similar actions are already included and described in Appendix C (Suggested Actions O-6 and FG-4; see also Table C-2: Suggested Actions for a listing of Suggested Actions). The Port has added Implementing Action FG-4 Track SPBP Truck Rate Study to the NTAP (see Table 2 of the Main Text). See also the response to Comment Topic #6: Grants, Incentives, and Funding Mechanisms.
GSPP-88	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Differential Ship Berthing and Truck Access Rates[4] [Footnote [4]: 4 This comment is repeated from CEPP's September 25, 2018 comment letter (See page 4). The Response to Comments addressed our original comment, we still believe that offering differential rates is a feasible and appropriate measure to phase in over time. Other California Ports, such as Los Angeles and Long Beach have developed a plan to charge differential access rates. At a minimum we request that the Port to commit to evaluating the feasibility of an entrance fee structure to be instituted by 2026 (three years after the entry fees for non-near zero trucks will become effective in Los Angeles).]	Implementing Actions	See the response to Comment GSPP-66.
GSPP-90	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	It also needs to establish incentives to encourage ship and truck owners to shift equipment to zero carbon technology.	Implementing Actions	See the response to Comment GSPP-66.

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EJ/WOEIP-75	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan, however, includes no discussion of how the Port, working with the City of Oakland, might promote off-terminal charging and servicing locations within the Port's land, as part of the ongoing Truck Management Plan effort or within the Oakland Army Base development process.	Implementing Actions	See the response to Comment Topic #12: Truck Parking and Charging. Also, the Port has added a new Suggested Action to Provide Public Drayage Truck Charging Infrastructure to Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-76	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan notes that the Port will be responsible for providing power to trucks domiciled at the Port-provided parking areas (Plan at p. F-24), but does not explain why similar charging infrastructure could not be used by other drayage trucks serving the Port.	Implementing Actions	See the response to Comment Topic #12: Truck Parking and Charging. Also, the Port has added a new Suggested Action to Provide Public Drayage Truck Charging Infrastructure to Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-78	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Instead, the Plan implies that space for charging and servicing is a barrier that the Port cannot address, when the truth is that the Port is simply choosing not to address the issue in the Plan.	Implementing Actions	See the response to Comment Topic #12: Truck Parking and Charging.
GSPP-62	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Find and Fix High Polluting Trucks**: Establish a work group to plan, construct and operate a system to identify highly emitting diesel trucks entering the Port, and to require repair as a condition of Port Access.	Implementing Actions	See the response to Comment GSPP-76.
BAAQMD-34	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	There were, in the comments to the initial Draft Plan, many suggested actions from the Port's local community, industry and public partners, which pre-date the development of the "2020 and Beyond" Plan. The placing of these ideas in an Appendix, unexamined by Port staff, unfortunately, and we believe, erroneously suggests that actions recommended by Task Force members are not being fully considered. We urge the Port, at a minimum, to screen these suggestions using the feasibility criterion listed on Page 15 of the Revised Draft Plan.	Implementing Actions	The Port compiled all new Suggested Actions, including Implementing Actions suggested in comments on the Draft Plan in Table C-3: New Suggested Actions in Appendix C, and these actions will therefore be assessed using the five-step screening and evaluation process. The Main Text describes the five-step screening and evaluation process, including the role of the Co-Chairs and Task Force (see Screening and Evaluation of Implementing Actions).
EJ/WOEIP-102	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	An example of where such a solutions-oriented process would be valuable is the current limitation on using electric yard hostlers on local public streets. The Port should work together with the City, industry, regulatory agencies, and the community to change local ordinances and determine how electric hostlers can travel to off-site yards near the Port.	Implementing Actions? Stakeholder Engagement?	See the response to Comment EJ/WOEIP-103.
GSPP-86	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Distributed Clean Energy Potential Study** - Even from a BART train is it apparent that there is a large amount of roof space at the Port that could potentially host solar generation. Similarly, there are likely to be many locations where demand response, targeted energy efficiency retrofits, and batteries would help lower costs of electric supply infrastructure needed for vehicle electrification and help avoid energy demand peaks due to growing vehicle energy charging demand. Wind turbines take up very little surface area and can operate above other port operations (just as they do above agricultural activity in other locations).	Infrastructure	See response to Comment Topic #10: Infrastructure. In addition, the Port has added the Suggested Action to conduct a Distributed Clean Energy Potential Study to Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-57	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	It will also avoid investments in technologies that are certain to be stranded in the near-term as zero-emissions technologies improve and regulatory requirements are tightened.	Infrastructure	See response to Comment Topic #10: Infrastructure.
EJ/WOEIP-58	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Finally, early build-out will allow the Port to take advantage of various incentives that are available now, but will likely decline as regulations are adopted and funds are used.	Infrastructure	See response to Comment Topic #10: Infrastructure.

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GSPP-87	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	In anticipation of demand from charging infrastructure, a study of distributed clean energy potential at the Port is necessary to ensure that the Port is able meet increased demand in a sustainable, and economic fashion.	Infrastructure	See response to Comment Topic #10: Infrastructure. In addition, the Port has added the Suggested Action to conduct a Distributed Clean Energy Potential Study to Table C-3: New Suggested Actions in Appendix C.
GSPP-84	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Electric Supply/Charging Infrastructure Work Group -** The Revised Plan includes several improvements concerning electrification infrastructure, but we believe the process needs to accelerate into order to take full advantage of state funding.	Infrastructure	See response to Comment Topic #10: Infrastructure. In addition, new Suggested Actions, such as the Suggested Action to create an Electric Supply/Charging Infrastructure Work Group, are include in Table C-3: New Suggested Actions in Appendix C.
TF-54	10-Jan-19	Comment Card	Khamly Chuop	AB Trucking	Bill Aboudi	None	Port needs to have a lead role to install ZE plugs for all equipment installed before 2025, most tenants are on month to month. Cost of permits,	Infrastructure	See response to Comment Topic #10: Infrastructure.
CARB-64	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• Infrastructure Planning and Investment. We previously suggested that [the] Port begin infrastructure investments in the Near-Term (2019-2023) instead of waiting until the Intermediate Term (2023-2030). We are supportive of the additional equipment and infrastructure actions in the Revised 2020 Plan, but urge the Port to begin deploying more widespread electrical infrastructure and modifying electrical substations now.	Infrastructure	See response to Comment Topic #10: Infrastructure.
CARB-65	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	The Maritime Power Capacity Study for Terminal Electrification is expected in Spring 2019, and early upgrades will begin laying the groundwork for zero emission maritime operations. Earlier investments in infrastructure will accelerate the adoption of zero-emission equipment instead of next-best alternatives, and will also allow infrastructure projects to remain competitive for local, State, and/or federal incentive opportunities.	Infrastructure	See response to Comment Topic #10: Infrastructure.
CARB-66	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	To address the lack of space for truck charging infrastructure that is cited in the response to comments on the Draft Plan, we strongly encourage the Port to work with the City of Oakland to identify space within the entire former Oakland Army Base property for this need. This action is to help mitigate the impacts of the expanded on- and off-port freight activities occurring in response to development of that property by both the Port and the City.	Infrastructure	See the response to Comment Topic #12: Truck Parking and Charging. In addition, the Port has added a new Suggested Action, Provide Truck Parking, to Table C-3: New Suggested Actions in Appendix C.
GSPP-65	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Distributed Clean Energy Potential Study**: Prepare a renewable energy potential study for land, buildings and equipment at the Port.	Infrastructure	See the response to Comment GSPP-86.
EJ/WOEIP-56	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Building out this infrastructure will address barriers to adoption of zero-emissions equipment and enable accelerated adoption.	Infrastructure	See response to Comment Topic #10: Infrastructure.
GSPP-108	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The International Maritime Organization (IMO) has already acted to reduce sulfur content of bunker fuel, a move that is causing changes in fuel markets and ship design. It has also set a greenhouse gas emission reduction target that strongly suggests a move, over the long term, away from fossil fuels for ships. The Oakland Port will eventually face market demand for non- fossil fueling infrastructure for ships and long haul trucks.	Non- Fossil Fueling for Ships and Long-Haul Trucks	See response to Comment Topic #10: Infrastructure.

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GSPP-107	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We recognize that some forms of propulsion are not amenable to electrification, including long- haul trucks, transoceanic ships and some harbor-craft. The Port will, sooner or later need to assess how to meet fossil-free fuel requirements for these important elements of shipping.	Non- Fossil Fueling for Ships and Long-Haul Trucks	See response to Comment Topic #10: Infrastructure.
GSPP-109	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Now is a good time to begin long range planning to assess how to meet renewable hydrogen, or hydrogen/ammonia demand for ship and long haul trucking.	Non- Fossil Fueling for Ships and Long-Haul Trucks	See response to Comment Topic #10: Infrastructure. In addition, the Port has added the Suggested Action to conduct Long-Range Plannig for Zero-Emissions Fuels for OGV, HC, and Long-Haul Trucks to Table C-3: New Suggested Actions in Appendix C.
GSPP-110	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	Hydrogen ferries are, or will soon be operating in the San Francisco Bay. The long term competitiveness of the Port of Oakland may depend on early planning to assess how to fuel ships with near zero-carbon fuels, and take advantage of local supplies of renewable hydrogen feedstocks (e.g. EBMUD Wastewater facility, food-agriculture-forestry bio-waste diversion).	Non- Fossil Fueling for Ships and Long-Haul Trucks	See response to Comment Topic #10: Infrastructure. In addition, the Port added a new Suggested Action, Local Supplies of Renewable Hydrogen Feedstocks to Table C-3: New Suggested Actions of Appendix C.
EJ/WOEIP-74	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	2. Space for charging and servicing. The Plan notes that marine terminal operators will not be able to accommodate external drayage truck charging due to a combination of space constraints and labor rules. (Plan at p. F-24.)	Noted	Comment noted. See also the response to Comment Topic #12: Truck Parking and Charging.
PMSA-31	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	The identification and detail provided for the Near-Term Action Plan for 2019-2023 provides a roadmap for emission reduction projects that are either underway or in the planning or scoping stages. It is of benefit to both the community and the tenants to have such a roadmap laid out for the near-term to provide for anticipated emission reductions and potential cost impacts respectively; at least to the extent that the dynamics at the port and the state of technology and funding allows.	NTAP	Comment noted.
CPP-25	16-Jan-19	email	Surlene Grant	CenterPoint Properties	Ryan Oley	None	3. Some efficiency measures may have a “cost to tenants” – are any of these measures mandatory and have they been scoped out for the Near-Term Action Plan?	NTAP	Any efficiency measures that the Port would require of tenants would be reflected in development and lease agreements.

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CE-19	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Our comments issued on the Draft AQP made the case for the Port of Oakland to include near-zero truck technologies that are certified to the California Air Resources Board's (CARB) most stringent optional low-NOx standard of 0.02 g/bhp-hr as an immediate strategy to reduce harmful port-related emissions from heavy duty trucks. The comparative benefits that near-zero technologies provide compared to zero-tailpipe emission strategies include: • An optional low NOx CARB certification that delivers 90% less NOx emissions than the current EPA and CARB heavy duty engine standard and an in-use performance according to UC Riverside that found NOx emission reductions at 95% or 0.01 g/bhp-hr; • A strategy that is 99% cleaner than the diesel trucks currently operating in and around the Port based on the fleet's average model year; • 70% to well over 100% lower greenhouse gas emissions compared to conventional diesel when powering a near-zero truck with renewable natural gas (RNG) - a fuel that can deliver up to a negative 250 carbon intensity score; • 90% quieter than diesel engines; • Commercially available now to deliver reliable emissions relief today; • Fueling infrastructure already in place with plans to further increase statewide fueling network as the market grows; and, • Far lower cost and more cost effective than any other competing technology with comparable performance.	NZE	Comment noted. Low nitrogen oxide (NOx) natural-gas-powered trucks would indeed provide substantial reductions in NOx emissions; and, if powered by renewable natural gas, would also provide substantial reductions in greenhouse gas emissions. However, there are currently no compressed-natural-gas (CNG) or liquified-natural-gas (LNG)-powered trucks in the Port's Secure Truck Enrollment Program (i.e., the registry of trucks allowed to access the marine terminals [STEP]). The Port supports market-driven adoption of technology. The Port has added the new suggested Implementing Action, Include Near-Zero Truck Technologies Certified to CARB's Optional Low-NOx Standard, in Table C-3: New Suggested Actions of Appendix C.
CE-21	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Given the substantial impacts of port-related pollution on neighboring communities and the region at large, it would be advisable to include all advanced clean strategies within the AQP that can offer immediate and deep criteria pollutant and carbon emissions reductions for port operations as soon as possible.	NZE	The Final Plan retains flexibility to accommodate a variety of zero-emissions technologies. The Port expects that adoption of zero-emissions technology will be both market-driven and regulation-driven.
CE-22	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	By doing so, the Port Authority will have the ability to help mitigate port-related truck pollution if electric trucks are delayed or fail to meet commercially viable operations.	NZE	Comment noted. The Port will rely on market-driven demand to determine the interest in various types of hybrid and zero-emissions technologies on the pathway to zero emissions. Should certain types of technological innovations fail to mature or perform, the market will respond accordingly. New regulations may also create technology drivers.
CE-23	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Certainly the Port Authority would be better positioned as a good neighbor by taking proactive measures now that prevent the surrounding port communities from being further subjected to harmful air pollution for another decade.	NZE	See the response to Comment C-22.
CE-24	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Failure to implement an immediate strategy will also leave climate pollution unabated despite clear indications that our oceans are warming at a faster rate than predicted causing sea level rise that could impact future port operations.	NZE	Comment noted. The Port agrees that responding to climate change is an urgent matter. Presently, given the distribution of trucks in the Port's STEP, which does not include any CNG- or LNG-fueled trucks, the Port believes that its focus on electric equipment as the pathway to zero emissions is likely to yield the most benefit in the shortest amount of time.

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CE-25	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Precious time will be lost and tens, if not hundreds of millions, of public dollars could be wasted, not to mention the external public health costs to our communities. Further, the Port of Oakland could be put at a competitive disadvantage to other ports that have more diversified strategies in their plans to mitigate their emissions on a more immediate *basis* (i.e., the San Pedro Bay Ports' Clean Air Action Plan).	NZE	Comment noted. See the response to Comment CE-24.
CE-29	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet: Make Difference with Natural Gas Heavy-Duty Trucks (by Natural Gas Vehicles for America [NGVAmerica])	The enclosed fact sheet provides thoughtful and compelling information that supports near-zero playing a role in helping the Port of Oakland achieve results that clean the air now without breaking the bank or requiring massive infrastructure investments.	NZE	Comment noted.
CPP-26	16-Jan-19	email	Surlene Grant	CenterPoint Properties	Ryan Oley	None	4. To help tenants minimize disruption, are there any plans to expedite permitting/regulatory processes for activities required by the tenants as part of the 2020 and Beyond Plan?	Plan Implementation	Port tenants are responsible for securing required regulatory permits for their operations and equipment. Where appropriate, the Port supports Port tenants in securing required permits.
CARB-61	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• High-Emitting Truck Detection System (E-T-6). CARB funded the University of California, Berkeley evaluation of in-use trucks serving the Port, and has since developed its own advanced detection system, the Portable Emissions Acquisition System (PEAQS). This provides CARB the ability to detect automatically, and in real-time, trucks with high emissions. In 2018, CARB amended its statewide inspection programs to lower opacity limits for trucks equipped with diesel particulate filters. Lowered opacity limits support our ability to identify and require repair of the subset of high polluting drayage trucks affecting West Oakland. We are asking the Port to collaborate with CARB to determine how PEAQS or other advanced detection systems can be used to identify trucks with high emissions for citation and repair. The Center for Environmental Public Policy at the University of California, Berkeley submitted recommendations on this issue and may be interested as well.	Plan Revisions	The Port met with GSPP representatives on February 13, 2019, and discussed the issues associated with a potential high-emitting truck detection system. It was apparent that additional information needs to be gathered to determine whether it is worthwhile to create a working group for this type of a system. GSPP agreed to pursue the additional information. The Port will participate in a working group on this Suggested Action, if appropriate based on the additional information collected by GSPP.
CARB-62	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• Ship Rates and Incentives (O-4 and O-6). The Revised 2020 Plan indicates that ships remain the single largest contributor of emissions from the Port; therefore, all emission reduction measures for ships are urgently needed. One potential implementation action, O-6, describes the Port offering financial incentives for ships with lower-emitting engines, cleaner burning fuels, and shore power capabilities. Separately, potential implementation action O-4 quantifies the potential emission reductions from implementation of a voluntary vessel speed reduction (VSR) program. The Port should commit to adopting a berthing rate structure that rewards ships with lower in-transit and/or at berth emissions. A Port commitment for a voluntary VSR does not need to wait until the completion of the Bay Area Air Quality Management District pilot study.	Plan Revisions	The Port has added Implementing Action FG-4 Track SPBP Truck Rate Study to the NTAP (see Table 2 of the Main Text). Combined environmental incentives for ships, and vessel speed reduction may be included in future revisions to the NTAP. BAAQMD intends to continue to better understand the pros and cons of VSR (Michael Murphy, pers. comm. 2019). The Main Text describes the screening and evaluation process for Implementing Actions, including the role of the Co-Chairs and Task Force members (see Screening and Evaluation of Implementing Actions).

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CARB-63	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• Request Railroads to Use Cleanest Engines in Oakland (E-L-5). CARB's 2008 Health Risk Assessment for West Oakland identified off-port locomotive emissions as a significant contributor to health risk in the West Oakland community. Initiatives to reduce emissions from the port should also consider emissions from nearby off-port rail yards, especially considering that a significant fraction of freight is transported in sequence through both facilities. Therefore, the Port should not delay to request and coordinate with neighboring Class 1 rail yards to use the cleanest available locomotive propulsion technologies on their proprieties.	Plan Revisions	This action was included in the NTAP in the Final Plan (Item 32). The action is now called "Encourage Railroads to Use Cleanest Engines in Oakland."
CARB-53	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Those actions, as described in this letter, are critical to protect local communities from exposure to harmful air pollution and should be included in the Plan prior to adoption.	Plan Revisions	The Port compiled all new Suggested Actions included in comment letters (or attachments to comment letters) on the Draft or Revised Draft 2020 and Beyond Plan in Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-85	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan should describe what staffing support is required to achieve the transition to a zero-emissions Seaport, identify the resources currently available, and identify any shortfall.	Plan Revisions	See the response to Comment Topic #11: Staffing and Resources.
EJ/WOEIP-86	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Once that shortfall is identified, the Plan should identify options for the Board of Port Commissioners to consider that address that shortfall.	Plan Revisions	See the response to Comment Topic #11: Staffing and Resources.
CARB-59	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	CARB strongly recommends further revision of the Revised 2020 Plan prior to consideration by the Board of Port Commissioners on April 25, 2019 1. Commit to additional actions, especially in the near-term phase {2019-2023), to provide health benefits for West Oakland, an AB 617 community; 2. Establish sector-specific zero-emission goals detailing the Port's vision for the transition to a zero-emission seaport; and 3. Revise and clarify details of newly incorporated material in the Plan document.	Plan Revisions	The Port has committed to the following additional actions: (1) Replace Electrical Infrastructure that is Beyond its Serviceable Life, (2) Port Electrical Grid Reliability and Capacity Upgrades, (3) Pursue Low-Carbon Fuel Standard Credits; (4) Encourage Railroads to Use Cleanest Equipment in Oakland; and (5) Track SPBP Truck Rate Study. The Port has reevaluated the potential for sector-specific goals; as described in the response to Comment Topic #8, Goals, the current state of zero-emissions technology does not support sector-specific goals other than those already included in Table 3: Intermediate-Term Equipment Goals in the Main Text (Goals I-1 and I-2 for cargo-handling equipment and drayage trucks, respectively). The Port will assess the potential for sector-specific goals as part of the annual report on the status of the NTAP.
CARB-60	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	CARB urges the Port to commit to adding at least the following strategies for its Near-Term Action Plan {2019-2023). The majority of these actions create policies that would require no net financial investment from the Port or its tenants. Staffing for implementation would not be solely incumbent upon the Port itself.	Plan Revisions	The Port has added Implementing Action E-L-5 to the NTAP in the Final Plan, and will participate in a work group regarding a high-emitting truck detection system should such a work group be formed based on GSPP's further information-gathering. The remaining actions requested by CARB do in fact require additional Port staff and financial resources.
CARB-76	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Our individual commitments for action and effective collaboration are critical to achieve our mutual vision to transform freight operations at the Port of Oakland and across California. CARB urges the Port to reconsider our comments on the initial Draft and specifically those highlighted in this letter on the Revised 2020 Plan.	Plan Revisions	Comment noted. The Port has carefully considered all of CARB's comments, and all other comments submitted.
EJ/WOEIP-77	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan must identify the space needs for meeting its goals, and identify the options available to the Port to satisfy those needs.	Plan Revisions	See the response to Comment Topic #12: Truck Parking and Charging.
EJ/WOEIP-71	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	A thorough analysis of these financing options should be conducted.	Plan Revisions	See the response to Comment Topic #6: Grants, Incentives, and Funding Mechanisms. Also, the Port has added the suggested Implementing Action, Analysis of Financing Options, to Table C-3: New Suggested Actions in Appendix C.

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EJ/WOEIP-52	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan must be revised to take advantage of these opportunities in order to achieve its long-term vision.	Plan Revisions	As stated in Appendix A: Planning Assumptions, the Port adopts a pragmatic approach, and this is reflected in the Plan. Prudently waiting for technology to mature to a certain level of commercial and operational feasibility promotes the success of the long-term vision.
PMSA-30	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	The Plan assumes continued cargo volume growth of 2% per year (Appendix A-3). We are optimistic for the future of the Port and are hopeful that this projection will be achieved and possibly surpassed. The inclusion in the Plan for mechanisms to address this dynamic though the Feasibility Criteria for Implementing Actions, coupled with 5-year reviews should allow for corrections as needed through continued assessment of strategies for attaining the goals of the Plan.	Plan Update	The Port is aware that sustained 2% annual growth may be somewhat aggressive given the historical trend of cargo throughput in Oakland. The Port has revised Appendix A to reflect a projected growth rate between 1 and 2%. The Port has also revised the Plan to include an express reference to a review of cargo performance when evaluating feasibility (see revision to affordability criterion in Table 1 of the Main Text). The Port recognizes the importance of cargo volume (as distinguished from net revenue) to the financial health of the Port and its tenants and customers. The Plan's 5-year update and annual review of the NTAP will also consider the Port's growth rate and net revenue.
BAAQMD-23	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	, however the Revised Draft Plan still falls short of showing a clear glide path towards zero emissions.	Port Commitments	As clearly described in the Plan, the path to a zero-emissions Seaport will consist of a series of incremental steps that will be implemented by a variety of organizations. The Plan itself recognizes that the transition will likely occur in phases, and that on-going learning will be an essential part of the process. The Plan's section entitled Timeline and Phased Action Plan lays out the Port's perspective on the pathway to zero emissions. At this stage of technology development for zero-emissions equipment, setting specific time frames for deployment of zero-emissions equipment would be speculative. The Port is working within the Governor Brown's 2030 and 2050 policy targets.
BAAQMD-38	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	In summary, most of the thirty-two actions listed in the Revised Draft Plan have the Port tracking or studying actions undertaken by Port tenants and the Ports of Los Angeles and Long Beach; observing the retrofit of a small number of existing equipment; supporting the purchase of 21 electric trucks and augmenting the Port's fleet with an electric vehicle. These are all good beginnings. We recognize the path to zero-emissions at the Port will not be easy and will take time. But restricting the initial efforts to already funded equipment replacements and some studies, while pragmatic, is too small a beginning.	Port Commitments	The Port has adopted a pragmatic approach based upon its feasibility analysis in Appendix F. The Plan is dynamic. The NTAP will be reviewed annually to assess the development of new feasible technologies, and the overall Plan Update will occur in 2023. See also the response to Comment BAAQMD-23.
EJ/WOEIP-27	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan supports this refusal by hiding behind artificial barriers that are within the Port’s ability to address and using flawed assumptions regarding cost and feasibility.	Port Commitments	See the responses to Comments BAAQMD-23 and BAAQMD-38.
EJ/WOEIP-64	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	**II. The Plan Must Address the Barriers that are Within the Port’s Control.** The Plan repeatedly identifies barriers to rapid deployment of zero-emissions solutions that are within the Port’s ability to address. Instead of committing to action to address the barrier, however, the Plan hides behind those barriers as an excuse for not committing to more ambitious action. The Plan should be revised to include actions to address the following barriers:	Port Commitments	See the responses to Comments BAAQMD-23 and BAAQMD-38.

Table RTC-4: Responses to Comments on the Revised Draft Seaport Air Quality 2020 and Beyond Plan (December 14, 2018), by Topic Category

Comment Number	Comment Received Date	Comment Receipt Type	Comment Received by	Affiliation	Name	Attachments	Comment	Comment Category	Response
EJ/WOEIP-30	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Setting strong goals is also important because (1) they help accelerate cost declines by sending clear market signals to both the purchasers and manufacturers, and (2) they ensure investment in equipment and supporting infrastructure that takes advantage of subsidies, plans for rational transition, and avoids stranded investments in next-best alternatives.	Port commitments	The Port has provided a clear market signal by publishing this Plan vision - the pathway to zero emissions and by including specific equipment and infrastructure goals. Within the California ports system, the San Pedro Bay Ports' Clean Air Action Plan also provides market signals in its policy goals. Demonstration projects that various California ports are undertaking also provide market signals. Anticipated regulations will promote the long-term, foreseeable transformation to zero-emissions operations. There are also related initiatives such as the West Coast Clean Transit Corridor Initiative. In addition, original equipment manufacturers (OEMs) have announced their commitments to developing zero-emissions equipment, indicating that the market place is responding to the need for this type of equipment.
EJ/WOEIP-31	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	In other words, being clear and setting strong commitments is critical to supporting the feasibility of the transition envisioned. The Plan's failure to adopt these commitments will undermine its success.	Port commitments	See the response to Comment EJ/WOEIP-29.
EJ/WOEIP-29	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The failure to adopt such commitments will undermine planning and investment that is not only critical to finally addressing the health impacts on surrounding communities, but also to keeping the Port competitive in a changing regulatory environment.	Port commitments	Subject to Board approval, the Plan commits the Port of Oakland to a long-term policy direction - "the pathway to zero emissions" and to specific zero-emissions equipment and related infrastructure goals. The Port's commitments are shown in the NTAP and the Intermediate-Term Equipment Goals (see Tables 2 and 3 in the Main Text). The three equipment and related infrastructure goals are 1) by 2025, deploy at least 44 pieces of zero-emissions cargo-handling equipment at the Seaport; by 2027; 2) deploy at least 21 zero-emissions drayage trucks in short-haul service at the Seaport by 2027; and 3) install electrical infrastructure to support the zero-emissions equipment deployments. The Port's commitments are feasible, based upon the findings of the Port's equipment technology feasibility analysis (Appendix F). The Plan's policy direction, Near-Term Action Plan and Intermediate-Term Equipment Goals address community health risk by focusing on emissions reductions. Keeping the Port competitive is a goal of the Plan (Goal #1: Keep the Port competitive and financially sustainable, and ensure that the Port remains a catalyst for jobs and economic development.). The Plan does not include equipment goals that are not supported by feasibility assessments (i.e. "speculative goals").
EJ/WOEIP-53	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	1. The Port must deploy electrical infrastructure to support the transition to zero-emissions.	Port Commitments	See the response to Comment Topic #10: Infrastructure. The Plan adds two new Implementing Actions, Replace Electrical Infrastructure that is Beyond its Serviceable Life and Port Electrical Grid Reliability and Capacity Upgrades, to the NTAP.
EJ/WOEIP-54	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Consistent with the above changes, the commitment to build out the infrastructure to support electrification (Plan at p. 28) must be expanded.	Port Commitments	See response to Comment EJ/WOEIP-53.
EJ/WOEIP-55	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	We urge the Port to begin widespread deployment of charging infrastructure now, which may include upgrades to substations and other make-ready improvements. Such planning and investment should be proactive rather than reactive.	Port Commitments	See response to Comment EJ/WOEIP-53.
BAAQMD-27	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	Commit to providing financial support and to expedite the electrical upgrades that are needed to realize the Port's transition's to zero emissions.	Port Commitments	See response to Comment EJ/WOEIP-53.

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Comment Number	Comment Received Date	Comment Receipt Type	Comment Received by	Affiliation	Name	Attachments	Comment	Comment Category	Response
CARB-52	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	and continue to urge the Port to commit to additional transformative actions beyond those listed in the Revised 2020 Plan.	Port commitments	See the response to Comment BAAQMD-23.
EJ/WOEIP-26	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan continues to undermine that vision by failing to include reasonable sector-specific commitments that will send clear signals for investment by industry and tenants.	Port Commitments	See the response to Comment CARB-59.
CARB-77	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	With an expanded commitment to additional near-term actions, we are confident of the Port's ability to lead the transition to a zero-emission seaport with its tenants, plus the ocean carriers, railroads, and trucking firms serving the port.	Port Commitments	See the response to Comment BAAQMD-23.
EJ/WOEIP-59	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	1. The Port must take steps to address pollution from nearby off-port railyards.	Port Commitments	See the response to Comment Topic #8: Goals.
EJ/WOEIP-60	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan should also include new commitments to address pollution from nearby railyards.	Port Commitments	See the response to Comment Topic #8: Goals.
EJ/WOEIP-63	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port should coordinate with neighboring railyards to use these new technologies on their properties.	Port Commitments	The Port has committed to an additional Implementing Action, Encourage Railroads to Use Cleanest Equipment in Oakland, in the NTAP. See also the response to Comment Topic #8: Goals.
CARB-68	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	As indicated in our initial comment letter, we reiterate the urgency to set transformative and ambitious zero-emission goals beginning in the near-term phase.	Port commitments	See the response to Comment Topic #8: Goals.
GSPP-60	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Revised Draft Air Quality Plan comes at a time of rapid changes in transportation, battery-storage and air pollution control technology. In general, we remain supportive of the Plan's aspiration to achieve zero-emissions from operations at the Port. The Revised Plan contains several improvements over the Initial Draft, and we applaud the Port Staff's effort to thoughtfully respond to the first round of comments. We also believe several additional changes would strengthen the Plan and help ensure the Port of Oakland is recognized as a leader in efforts to decarbonize port operations and reduce exposure to diesel particulate matter in nearby residential communities.	Port Commitments	Comment noted
GSPP-111	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Seaport Air Quality 2020 & Beyond planning process is an opportunity to strengthen the long-term competitiveness and economic viability of Oakland as a major trade portal.	Port Competitiveness	The Port agrees that the Seaport Air Quality 2020 and Beyond planning process is an opportunity to strengthen the long-term competitiveness and economic viability of the Port of Oakland. Economic competitiveness is one of the five goals of the plan, and a core planning principle.
GSPP-100	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We believe this would be appropriate because the Port has a unique ability to influence the behavior of truck operators. Examples of this can be seen through our suggestions for the "Find and Fix High Polluting Trucks" and "Differential Ship Berthing and Truck Access Rates."	Port Role	The West Oakland Truck Management Plan (TMP), a related plan, is designed to reduce the effects of trucks on local streets in West Oakland.
EJ/WOEIP-84	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	5. Port Staffing. The Plan includes vague references to staffing limitations to pursue aggressive actions and support the transition to zero-emissions alternatives. We know that much of the funding provided to the Port to address environmental issues includes overhead for staffing.	Port Staffing/ Resources	See the response to Comment Topic #11: Staffing and Resources.

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EJ/WOEIP-87	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	We believe the Port should hire dedicated staff who will work on achieving a zero-emissions Seaport. These staff can develop the required expertise, develop the required contacts with agencies, operators and vendors, and trouble-shoot issues that arise in achieving the commitments in the Plan. Again, the Plan should not hide behind problems, but propose solutions to fix them.	Port Staffing/ Resources	See the response to Comment Topic #11: Staffing and Resources.
EJ/WOEIP-73	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	More fundamentally, the Plan should identify the investment needs over time for achieving its vision for becoming a zero-emissions Seaport and propose a plan for financing those needs. Instead, the Plan raises the uncertainty of financing to justify avoiding strong commitments – that approach will virtually ensure failure.	Port Staffing/ Resources	See the Funding the Plan in the Main Text. Implementation of the Plan will proceed incrementally, as funding and resources for various actions become available and the cost of new zero-emissions or hybrid equipment comes closer to achieving cost parity with diesel-fueled equipment. In addition, the Port has added a new suggested Implementing Action, Financing Plan for Transition to Zero-Emissions Seaport, to Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-106	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	To achieve this vision, however, the Port must identify barriers, create a plan to overcome those barriers, set strong milestones, and employ a problem-solving mentality that meaningfully engages with the community and stakeholders by looking for solutions, rather than communicating excuses.	Port Staffing/ Resources	See the response to Comment Topic #11: Staffing and Resources.
CPP-23	16-Jan-19	email	Surlene Grant	CenterPoint Properties	Ryan Oley	None	2. In terms of reporting, how will the term “Periodic” be defined (e.g. semiannual, biennial, etc.)?	Reporting	Tenants will typically be asked to provide input on an annual basis so that Port staff can reflect that input in its annual report to the Board of Port Commissioners.
BAAQMD-24	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	Air District staff recommend that the following changes be made to the Revised Draft Plan prior to consideration by the Board of Commissioners: • Add health costs and benefits to the Port's feasibility criterion. The Air District, the California Air Resources Board and the Alameda County Health Department can all be useful partners in this effort.	Screening	The Port's efforts will continue to focus on emissions reductions and the process of implementing zero-emissions technology. The Port will rely on health risk assessment and estimates of related costs and benefits by agencies, such as BAAQMD, Alameda County Public Health Department, and CARB, who have the expertise to conduct these types of assessments. The findings of the Draft 2019 BAAQMD HRA (as resented to the WOCAAP Steering Committee on March 6, 2019) (BAAQMD 2019) have been incorporated into Appendix B.
CARB-74	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	• Emission reductions. port staffing, and financial investments. Some, but not all potential and identified Implementation Actions (Table 2 and Appendix C) include emission benefits or cost information. The Revised 2020 Plan includes substantial detail and consideration for each (potential) action, but it is not clear to stakeholders or other readers whether the Port considers an action to not be feasible due to port staffing, funding limitations, or other reasons. The Port should expand analysis of potential implementation actions to include emission reductions expected, estimated port staffing, and required financial investments. Objective criteria for each action will help prioritize and direct funding to the most effective projects.	Screening	See response to Comment BAAQMD-34.
BAAQMD-32	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	• Establish an *independent* review process for determining the pollution exposure reduction benefits from and the technical and economic feasibility of clean fuels, zero emission trucks and cargo handling equipment, and low-emission engines for harbor craft and locomotives. This review process should rely upon the Task Force to develop a shared consensus of which technologies are the best fit for the trucks and equipment used to move freight at the Port.	Screening	Task Force and Task Force Co-Chair engagement in the five-step screening and evaluation process is described in the Main Text (see Screening and Evaluation of Implementing Actions).

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EJ/WOEIP-80	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	These subjective barriers are entirely within the Port's ability to influence, and should not be used to reject actions. Instead, to the extent staff believe there are acceptability barriers, they should outline a plan to address these concerns.	Screening Criteria	It is up to each equipment owner to determine acceptability. The Port will continue to share information regarding the status of zero-emissions technology, grant funding, and the results of demonstration projects. Information documenting acceptable equipment performance and support for repair and maintenance will help increase acceptability of zero-emissions equipment.
EJ/WOEIP-79	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	3. Operator "concerns" and acceptability. The Plan uses operation and overall "acceptability" as criteria for assessing the feasibility of proposed actions (Plan at p. 15), and raises vague "concerns" around the use of certain electric equipment (Plan at p. F-10) to support slow transition to zero-emissions alternatives.	Screening Criteria	Operator concerns reflected in the acceptability criterion are based on part on comments provided during Task Force meeting #4, as well as concerns raised in comment letters from industry.
EJ/WOEIP-82	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port should also acknowledge that it is not solely up to operators to choose what can and cannot be used within the Port. In the same way that operators might not have "chosen" to upgrade to cleaner diesel trucks or to plug-in ships while at berth, acceptability and choice cannot be litmus tests for moving forward.	Screening Criteria	Until regulations are put in place requiring maritime operators and/or truckers to upgrade their equipment, acceptability will continue to be an important criterion for evaluating Implementing Actions.
GSPP-85	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	A formal work group dedicated to learning, planning and outreach on this subject would help ensure a transparent, inclusive and effective response to rapid changes in technology, funding, and markets.	Stakeholder Engagement	All Suggested Actions will be screened using the five-step screening and evaluation process (see Screening and Evaluation of Implementing Actions in the Main Text); the process includes the use of Working Sessions at the discretion of the Co-Chairs. The Co-Chairs will consider feedback from the Task Force to inform Working Sessions. These Working Sessions will be open to the Task Force and other new and *missing from the discussion* stakeholders (as referenced in 5.2 of the PEP). Also, an action to establish a High-Emitting Truck Detection System Work Group has been added to Table C-3: New Suggested Actions of Appendix C.
BAAQMD-33	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	The specific role of the Task Force needs to be more clearly describe[d] in the final Plan.	Stakeholder Engagement	The specific role of the Task Force is described in the Main Text (see Screening and Evaluation of Implementing Actions), and in Appendix G.
EJ/WOEIP-99	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	**IV. The Public Engagement Plan Must Use a Multi-Stakeholder, Solutions-Oriented Process.** Although the Plan lists potential future meetings as well as strategies and best practices for increasing public participation, it omits more key details with no explanation.	Stakeholder Engagement	See the response to Comment GSPP-85.
EJ/WOEIP-100	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Town halls and workshops can be effective tools for conveying information, but that is not the same as meaningful engagement with the community.	Stakeholder Engagement	Town hall meetings are intended as a method to reach a wider audience of stakeholders who are not involved at the level of the Task Force. Town halls will provide information on Plan progress and facilitate feedback and recommendations. To reach a range of people and viewpoints that is broadly reflective of the local community, existing community forums will be included in the Port's outreach, with particular focus on creating opportunities for joint forums with (but not limited to) the AB 617 Steering Committee, Truck Management Plan stakeholders, Alameda County Transit Commission (for the GoPort Project), and Plan Bay Area.
EJ/WOEIP-101	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port continues to use this model, however, focusing on the top-down distribution of information—controlled by the Port—at the expense of truly engaging with the public to solve problems collaboratively. And while this may serve to shield the Port from any criticism, it betrays the overall lack of a problem-solving mentality that can move the Port away from rote updates on the Plan's progress and toward an in-depth, multi-stakeholder solutions-oriented process.	Stakeholder Engagement	Appendix G, Public Engagement Plan, describes the guiding principles for stakeholder engagement. Appendix G is founded on a model of authentic participation, i.e., engagement that is two-way and meaningful.

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EJ/WOEIP-104	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	These win-win solutions are possible if the Port brings all the stakeholders together, asks questions, and approaches these challenges with a problem-solving mentality, as opposed to simply conveying information.	Stakeholder Engagement	See the response to Comment GSPP-85.
GSPP-64	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Electric Supply/Charging Infrastructure Work Group**: Establish a work group of interested stakeholders to regularly meet to discuss and plan electric supply and battery charging infrastructure at or near the Port and to maximize access to state funding for electrification.	Stakeholder Engagement	See the response to Comment GSPP-85.
GSPP-106	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Electricity** - CEPP supports statements in the revised draft plant that establish a presumption that electricity will be predominant source of energy that will replace diesel engines. CEPP supports the following statement in Strategy 3: Develop Required Infrastructure to Support Pathway to Zero Emissions. Strategy #3 focuses on the infrastructure required to transition to zero-emissions operations, with the presumption that the predominant source of power will be electricity. This will require the Port and its tenants to pay for upgrades to existing systems, increase system resilience (i.e., backup capacity), and build new infrastructure, including information technology systems to improve goods movement efficiency. The Port will plan and coordinate electrical system upgrades in areas served by the Port as a utility. The Port will work jointly with the terminal operators, off-dock tenants, and equipment owners located in these areas. The Port and its tenants will work with Pacific Gas & Electric Company (PG&E) in the PG&E-serviced areas. See Figure 2 for service areas. Strategy #3 provides flexibility for other technology options (such as hydrogen-powered equipment) to provide power for zero-emissions equipment and operations.	Support/ Appreciation	Comment noted.
CARB-58	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	We are encouraged that the Revised 2020 Plan includes more detail on the Port's ongoing planning, tracking, and evaluation activities, as well as efficiency initiatives, to reduce emissions and protect community health, while increasing operational efficiencies and remaining competitive with other West Coast ports.	Support/ Appreciation	Comment noted.
CARB-57	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	We continue to support the Revised 2020 Plan's focus on the necessary transition to zero-emission operations to protect public health and combat climate change.	Support/ Appreciation	Comment noted.
PMSA-35	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	PMSA's members are committed to helping make the goals of the Plan a success, and are looking forward to working with port staff and other stakeholders to enable the visions of the Plan. The staff at PMSA is happy to answer any questions or concerns that the port may have and are always available to engage on these important issues.	Support/ Appreciation	Comment noted.
TF-58	10-Jan-19	Comment Card	Khamly Chuop	PMSA	John Berge	None	Appreciate the Port's outreach to tenants to assess feasibilities. The Port of LA and LB have not taken such extensive outreach.	Support/ Appreciation	Comment noted.
PMSA-26	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	We believe this revised Plan provides a reasonable framework for all stakeholders to work together to achieve the Port's goals of a vibrant, sustainable and competitive port with a workable pathway to reduced toxic air contaminants and a future goal of zero emissions.	Support/ Appreciation	Comment noted.

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CARB-67	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	CARB staff supports the Revised 2020 Plan' s overall strategies to promote pathways to zero-emission technologies.	Support/ Appreciation	Comment noted.
BAAQMD-39	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	Now is the time to be ambitious and bold. I would like to again express my confidence that, working in concert with the local community and your workers, tenants and customers, the Port of Oakland can reach zero emissions operations.	Support/ Appreciation	Comment noted.
EJ/WOEIP-105	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	We are pleased with the Plan’s vision for a zero-emissions Seaport, and wholeheartedly agree with that vision.	Support/ Appreciation	Comment noted.
PMSA-32	24-Jan-19	Letter (email)	Khamly Chuop	PMSA	John Berge	None	We appreciate the inclusion of the promised economic analysis of the emission reduction strategies identified in the Plan, as outlined in Appendix F.	Support/ Appreciation	Comment noted.
BAAQMD-21	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	Thank you for the opportunity to provide comments on the revised draft to the Port's "2020 and Beyond" Seaport Air Quality Plan. The Bay Area Air Quality Management strongly supports the Plan's vision to transition the Seaport operations to zero emissions "... through changes in equipment, operations, fuels, and infrastructure.["]	Support/ Appreciation	Comment noted.
BAAQMD-22	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	We appreciate that Port staff have incorporated into the Revised Draft Plan some of the comments that were submitted during the first review period calling for a clearer set of specific commitments and timelines for the purchase of zero emission trucks and equipment,	Support/ Appreciation	Comment noted.
EJ/WOEIP-24	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	On behalf of the West Oakland Environmental Indicators Project, we appreciate the ability to offer these additional comments on the Port of Oakland’s Revised Draft Seaport Air Quality 2020 and Beyond Plan (“the Plan”).	Support/ Appreciation	Comment noted.
GSPP-59	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We open with a note of appreciation for the decision by Port management and staff to produce a Revised Draft, respond to comments on the initial draft and to allow an additional comment period on the Revised Draft. We are strongly supportive of the decision to make air quality improvement a strategic and organizational priority for the Port of Oakland (Port). We support the Port’s vision of creating a pathway to zero-emissions for Seaport operations through changes in equipment, operations, fuels, and infrastructure. We support the Port’s commitment to undertake regular updates to the plan, and research into the rapidly changing technology and markets for zero emission infrastructure and fleets. These commitments are important to the broader objective of achieving greater equity, and environmental fairness for the people of West Oakland. These commitments are also important to efforts to reduce greenhouse gas emissions that have global equity and existential implications for human populations and economic balance.	Support/ Appreciation	Comment noted.
CE-18	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Thank you for considering additional comments on the Port of Oakland Seaport Air Quality Plan (AQP).	Support/ Appreciation	Comment noted.
CARB-51	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	Thank you for developing and releasing a Revised Draft Seaport Air Quality 2020 and Beyond Plan (Revised 2020 Plan), and providing California Air Resources Board (CARB) staff and the public a second opportunity to comment on this pivotal planning document for the Port of Oakland (Port). We appreciate the numerous improvements to the Plan and the second public review process,	Support/ Appreciation	Comment noted.

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GSPP-96	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· Modify port electric supply infrastructure to accommodate a complete yard hostler transition to electric drives by 2030.	Targets/ Goals	See the response to Comment Topic #8: Goals.
GSPP-97	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· Achieve a gradual/sustained increase in power supply and charging equipment for drayage trucks that bring containers to and from the Port.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-33	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan adds a new near-term implementing action of deploying 44 pieces of zero-emissions cargo handling equipment by 2025. The Plan should clarify whether this commitment is in addition to the existing commitments (i.e., to deploy 13 hybrid RTGs at the Oakland International Container Terminal, the top pick at Matson Terminal, and the five zero-emissions yard tractors). Commenters assume the commitment is in addition to these pre-existing commitments, but in any event believe a stronger commitment is reasonable both for 2025 and 2030.	Targets/ Goals	This goal includes existing commitments. This has been clarified in the NTAP (Table 2 of the Main Text). The Port's commitments are feasible, based upon the findings of the Port's equipment technology feasibility analysis (Appendix F). The Plan does not include equipment goals that are not supported by the feasibility assessments (i.e. "speculative goals").
GSPP-91	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	The Port should commit to study and establish a set of access charges or preferential access rules that will gradually create revenues and incentives for investment in low carbon vessels and vehicles.	Targets/ Goals	The Port is tracking the truck rate study that was recently started by the SPBP. The Port will determine whether it is appropriate for the Port to consider a truck rate study following the outcome of the SPBP study. In addition, a Suggested Action to Conduct Truck Rate Study has been added to Table C-3: New Suggested Actions in Appendix C. See also the response to Comment Topic #8: Goals.
EJ/WOEIP-25	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	While we acknowledge and appreciate the added commitments in the revised Plan, we continue to urge the Port to set stronger, concrete goals that will drive the transformation required to achieve the Port's vision of becoming a zero-emissions Seaport.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-28	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	As a result, we recommend the following changes. **I. The Plan Must Strengthen its New Commitments to Deploy Zero-Emissions Equipment and Infrastructure.** While we welcome the new "intermediate-term equipment goals" added to the near-term action plan, we urge the Port to strengthen these goals and commit to the transformation that is being pursued at the San Pedro Bay Ports, and that has been deemed feasible by State and local agencies considering regulations of port trucks and cargo handling equipment.	Targets/ Goals	See the response to Comment Topic #8: Goals. The Port's commitments are feasible, based upon the findings of the Port's equipment technology feasibility analysis (Appendix F). The Plan does not include equipment goals that are not supported by feasibility assessments (i.e. "speculative goals").
EJ/WOEIP-42	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The new commitment to deploy 21 zero-emissions drayage trucks by 2027 is not a serious commitment. Again, the Plan should clarify that this commitment is in addition to the zero- emissions drayage trucks that are already included in prior commitments. Even assuming this is an additional commitment, the Port's commitment amounts to converting less than half of 1 percent of the current drayage truck fleet serving the Port. Meanwhile, the San Pedro Bay Ports are pursuing a goal of converting all of their 17,500 drayage trucks, including trucks that deliver over the Grapevine, to zero-emissions by 2035.	Targets/ Goals	This equipment goal of 21 zero-emissions drayage trucks includes existing commitments. This has been clarified in the NTAP (Table 2 of the Main Text). As discussed in Topic #8: Goals, as a guiding principle for the Plan, the Port will continue to focus on practicable technology, that is, technology that has achieved a specified level of maturity. See also Response to Comment EJ/WOEIP-29.

Table RTC-4: Responses to Comments on the Revised Draft Seaport Air Quality 2020 and Beyond Plan (December 14, 2018), by Topic Category

Comment Number	Comment Received Date	Comment Receipt Type	Comment Received by	Affiliation	Name	Attachments	Comment	Comment Category	Response
BAAQMD-26	24-Jan-19	Letter (email)	Khamly Chuop	BAAQMD	Jack Broadbent	None	A clearer understanding of the specific waterfront sources most impacting local health can help inform the timing of the Port's transition to zero emissions.	Targets/ Goals	The Plan considers the relevant available information regarding potential Seaport-emissions-related contributions to community health risk. This includes the findings from the Draft 2019 BAAQMD HRA (as presented to the WOCAAP Steering Committee on March 6, 2019) that relied in part on emissions data compiled as part of the Port's 2017 Emissions Inventory. See also the response to Comment Topic #4: Emissions Inventories.
CE-27	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Rather than prematurely picking a technology winner, the Port should embrace performance-based standards that support both zero and near-zero emission strategies that are powered by renewable fuels.	Targets/ Goals	See the response to Comment CE-19.
GSPP-95	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· Establish a plan to gradually move yard hostler equipment from diesel to electric drive technology, with a goal to replace half of the yard hostler fleet with electric drives by 2025 and complete replacement by 2030.	Targets/ Goals	See the response to Comment Topic #8: Goals. In addition, the Port added a new Suggested Action, Yard Hostler Transition Plan, to Table C-3: New Suggested Actions in Appendix C.
CARB-69	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	We recognize a number of specific and conflicting suggestions were received for achieving percentages of zero-emission equipment by a certain date, which cannot all be accommodated because some conflict with each other.	Targets/ Goals	See the response to Comment Topic #8: Goals.
CARB-70	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	We urge the Port to respond to CARB's initial comments and those received from other stakeholders by identifying target dates for a percent of zero-emission equipment that should be possible for a given sector. These goals or targets can be included as sub-bullets in Strategies #2 and #3, which are currently listed on Page 4 of the Revised 2020 Plan.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-32	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan should commit to replace all cargo handling equipment with zero-emissions equipment by 2030.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-38	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	With these changes, we believe the Port could comfortably commit to a target of 33% of yard trucks being zero- emissions by 2025 and 100% by 2030.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-39	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The remaining equipment can also be replaced with zero-emissions alternatives in the 2030 timeframe. Over half of the Port's RTGs are already slated for replacement by hybrids. It is reasonable to expect that the remainder could be similarly replaced before 2030.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-40	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	That leaves top picks, which the report acknowledges will be commercially available from Kalmar and others around 2021. Again, with declining battery costs, declining manufacturer costs with increasing scale, Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project ("HVIP") incentives, and LCFS credits that likely more than offset fuel costs, the Port should have high confidence in setting a 100% zero-emissions 2030 target.	Targets/ Goals	See the response to Comment Topic #8: Goals.
EJ/WOEIP-41	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	1. The Plan should commit to zero-emissions drayage trucks by 2035.	Targets/ Goals	See the response to Comment Topic #8: Goals.
GSPP-67	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	· **Vehicle Electrification Goals:** Set more specific goals and target dates by which certain segments of diesel equipment operating within the Port will transition to electrification. At a minimum this should include several hundred yard-trucks, and perhaps a thousand drayage trucks with short-haul duty cycles.	Targets/ Goals	See the response to Comment Topic #8: Goals.

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GSPP-92	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	**Vehicle Electrification Goals -** As was stated in our earlier comments, the Port should establish more precise goals for electrification of yard trucks and other equipment that are amenable to electrification in the near to mid-term.	Targets/ Goals	See the response to Comment Topic #8: Goals.
GSPP-94	31-Jan-19	Letter (email)	Khamly Chuop	UC Berkeley Goldman School of Public Policy	David Wooley	Appendix A: Program to Identify High Polluting Trucks and Reduce Emissions	We acknowledge that it is difficult to forecast technology and pricing, but we encourage the Port to set more ambitious measurable targets for electrification. Specifically, we reiterate the goals we stated in our September 2018 Comments:	Targets/ Goals	See the response to Comment Topic #8: Goals.
CARB-71	22-Jan-19	Letter (email)	Khamly Chuop	California Air Resources Board	Richard W. Corey	September 5, 2018 Comments on Draft 2020 and Beyond Plan	By establishing specific zero-emission performance goals, the Port will send clear signals to industry and tenants to invest in cleaner technologies.	Targets/ Goals	See the response to Comment EJ/WOEIP-30.
EJ/WOEIP-81	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Pilot demonstrations will assist in this effort, but more could be included in the Plan. For example, the Port could organize technology fairs and opportunities for vendors to demonstrate their technologies and answer questions, financing workshops as noted above, and briefings from other operators that have adopted zero-emissions technologies.	Technology	New Suggested Actions, including this suggestion for Technology Fairs and Vendor Demonstrations, were included in Table C-3: New Suggested Actions in Appendix C.
TF-56	10-Jan-19	Comment Card	Khamly Chuop	WOEIP/ UC Berkeley	Lily MacIver	None	Workforce Development - it would be helpful if a plan to measure and track progress towards local employment, and gaps in resources, were outlined.	Workforce Development	As part of the Port's continued commitment to supporting local employment, in Spring 2019 (March 26, 2019) the Port officially launched the Jobs and Workforce Development Stakeholders Group of the Oakland Army Base (OAB) Jobs Policy. This group will be responsible for implementing, monitoring and tracking of jobs and job placement of local residents, which prioritizes West Oakland job seekers. Additionally, with employer input, the Port will need to know what new skills will be required, and the level of impact these needed skills will have on specific job categories. The Port will also need an overview of the employer's current workforce to develop a measurable plan.
EJ/WOEIP-93	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Similarly, the Plan spends a disproportionate amount of time discussing the broad parameters of its workforce gap analysis, while relying on outside partners and "stakeholders" for an indeterminate process of studying and monitoring that omits key details.	Workforce Development	The Workforce Gaps Analysis is a framework for employers to use as a tool for identifying workforce needs and aligning of training.
EJ/WOEIP-94	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	How long will it take to complete the workforce gap analysis?	Workforce Development	The Workforce Gaps Analysis depends on the emergence of new technology and/or alternative fueling sources for specific equipment.
EJ/WOEIP-95	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	When will the workforce transition plan be implemented?	Workforce Development	Implementation of the workforce transition plan depends on the emergence of new technology and/or alternative fueling sources for specific equipment.
EJ/WOEIP-96	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Who are the "industry stakeholders and partners" whose workforces will be analyzed as part of this process?	Workforce Development	The industry stakeholders and partners whose workforces will be analyzed as part of the Workforce Development Plan depend on the emergence of new technology and/or alternative fueling sources for specific equipment.
EJ/WOEIP-97	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Why are training resources directed toward near-zero emissions equipment, if investment in near-zero technology detracts from the Plan's vision of a zero- emissions Seaport?	Workforce Development	Near-zero emissions equipment may serve as transitional technology between the current diesel-powered equipment and fully zero-emissions equipment. For example, the hybrid-electric RTGs at Oakland International Container Terminal fall into this category. The actual training resources that will be required, and where they will be directed, depend on the emergence of new technology and/or alternative fueling sources for specific equipment.

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EJ/WOEIP-92	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	In keeping with this elevated role and responsibility for the Port, the Plan should identify any possible incentive funds that the Port itself can provide to support West Oakland residents pursuing Port jobs. The Plan mentions collaborating with other ports to secure grants as well as the California Employment Training Panel funding program, yet never commits actual Port dollars toward training and education.	Workforce Development	The Port is currently funding two West Oakland training providers for Port and Port-related employment opportunities, Rising Sun Center for Opportunity and West Oakland Job Resource Center.
EJ/WOEIP-83	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	4. Labor Restrictions. Commenters acknowledge the real logistical issues that must be addressed and that labor agreements are not controlled by the Port. Nonetheless, the Port can outline the labor issues that need to be addressed to facilitate the transition to becoming a zero-emissions Seaport and ensure that those issues are included in future agreements. The San Pedro Bay Ports are pursuing a similar transition, so it is important that future agreements work for the Port of Oakland as well. The failure to participate in this dialogue, again, will ensure the failure to address these barriers.	Workforce Development	The Plan includes Appendix E: Workforce Development Plan. The Port has adopted a Jobs Policy for the CenterPoint—Seaport Logistics Complex. This policy includes strong local hire goals for West Oakland residents and was negotiated in partnership with labor. Expansion of a Port-wide Jobs Policy is under consideration.
TF-55	10-Jan-19	Comment Card	Khamly Chuop	Pinnacle Ag/ CVAG	Paul Konzen	None	How do I connect with local labor pools	Workforce Development	The Port partners with training providers by providing direct resources and/or direct referrals to partner agencies. Port employers are often referred to specific workforce and training program partners such as Cypress Mandela Training Center, Rising Sun Center for Opportunity, or West Oakland Job Resource Center. Other local labor pools can be found by contacting the local Workforce Development Board.
TF-57	10-Jan-19	Comment Card	Khamly Chuop	WOEIP/ UC Berkeley	Lily MacIver	None	Workforce Development - incentives for West Oakland residents to enter job training at community colleges are important. They might take the form of the Port holding a certain number of jobs for local workers, providing scholarships, or helping to find waivers for college fees.	Workforce Development	The Port is currently funding two West Oakland training providers for Port and Port-related employment opportunities: Rising Sun Center for Opportunity and West Oakland Job Resource Center. The Port also supports scholarship programs for both high school and college students, such as the Marcus Foster Scholarship and the Port of Oakland Asian Employees Association (AEA) Scholarship programs. In addition, the Port has added a new Suggested Action, Incentives for College or Job Training, to Table C-3: New Suggested Actions in Appendix C.
TF-61	10-Jan-19	Comment Card	Khamly Chuop	Peralta Community College District	Jowel C. Laguerre	None	The port ought to serve as a convener between the operators and education agencies - support an environment that supports a trained workforce. Be persistent. Don't let our agencies off the hook.	Workforce Development	The Port is engaged with the local community college district to promote job training and education for West Oakland residents.
EJ/WOEIP-88	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	**III. The Workforce Development Plan Must Clearly Identify How it will Prioritize West Oakland Residents for Port Jobs, Training, Education, and Certification.** Most West Oakland households fall below the federally defined poverty level, with incomes significantly lower than the City of Oakland as a whole. And despite being the community immediately surrounding the Port and its continuously expanding freight activities, West Oakland's reported unemployment rate is nearly 30 percent, which is still likely underestimated. The Port is the logical source for long-term, permanent jobs for West Oakland residents, therefore the Workforce Development Plan must more clearly identify and commit to a pipeline of jobs, training, education, and certification that prioritizes community members.	Workforce Development	The Port has adopted a Jobs Policy for the CenterPoint—Seaport Logistics Complex. This policy includes strong local hire goals for West Oakland residents and was negotiated in partnership with labor. Expansion of a Port-wide Jobs Policy may be part of a longer-term plan defined by community, employer, and education partners through the Jobs and Workforce Development Stakeholders Group of the OAB Jobs Policy.

Table RTC-4: Responses to Comments on the Revised Draft Seaport Air Quality 2020 and Beyond Plan (December 14, 2018), by Topic Category

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EJ/WOEIP-89	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Indeed, the Plan remains noticeably devoid of these specific actions or commitments, despite our similar comments on the earlier draft.	Workforce Development	The Port has adopted a Jobs Policy for the CenterPoint—Seaport Logistics Complex. This policy includes strong local hire goals for West Oakland residents and was negotiated in partnership with labor. Expansion of a Port-wide Jobs Policy may be part of a longer-term plan defined by community, employer, and education partners through the Jobs and Workforce Development Stakeholders Group of the OAB Jobs Policy.
EJ/WOEIP-90	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Instead, the Plan focuses at length on a workforce gap analysis that continues to keep the Port at the level of studying, evaluating, investigating, tracking, meeting, participating, coordinating, and monitoring. Other than repeated and vague references to "local" training and education programs that will "strengthen partnerships" and serve "local" residents, it is unclear exactly how the workforce gap analysis and later workforce transition plan will prioritize West Oakland residents in particular.	Workforce Development	See the response to Comment EJ/WOEIP-89.
EJ/WOEIP-91	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan must move beyond simply "strengthening partnerships" and position the Port as the conduit between industry leaders, training partners, and education providers, with a clear path from each to permanent jobs for community members.	Workforce Development	See the response to Comment EJ/WOEIP-89.
EJ/WOEIP-98	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	Without more specific targets or goals, it is unclear when or how community members will be prioritized for long-term Port jobs.	Workforce Development	See the response to Comment EJ/WOEIP-89.
EJ/WOEIP-43	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Plan declines to provide a detailed analysis of the feasibility of requiring drayage trucks servicing the Port to be zero-emissions. The Plan should be updated to include such an analysis.	ZE Trucks	New Suggested Actions, including this suggestion to Develop Feasibility Analysis for Requiring Zero-Emissions Drayage Trucks, are included in Table C-3: New Suggested Actions in Appendix C.
EJ/WOEIP-45	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The revised analysis should identify the range requirements for trucks serving the Port, including the number of "short-haul" and "long-haul" trucks, and their operational requirements.	ZE Trucks	See the response to Comment GSPP-79.
EJ/WOEIP-44	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The Port should consider the draft feasibility assessment being prepared for the San Pedro Bay Ports. That analysis, while still overly conservative in many respects, notes that in addition to BYD, Daimler and Volvo have announced plans to commercialize zero-emissions Class 8 trucks in the 2021 timeframe, with Navistar making similar commitments for 2025.1	ZE Trucks	The Port has reviewed the referenced document. The feasibility analysis does indeed state that a number of other OEMs intend to have initial models of electric heavy-duty trucks available in the 2020 to 2021 timeframe. The feasibility analysis also estimates that in 2021 heavy-duty trucks suitable for short-haul drayage may have reached Technological Readiness Level 8 (i.e., these vehicles would not yet be considered commercially available). This conclusion is consistent with the Port's analysis in Appendix F. The Port will continue to track feasibility analyses and demonstration projects performed by the SPBP, and will also gain experience from the electric drayage trucks to be tested at the Port of Oakland. The results of these studies and demonstration tests will be factored into the annual review of the NTAP and the 5-year Update of the Plan.
EJ/WOEIP-46	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The draft feasibility assessment for the San Pedro Bay Ports found that while current range capabilities for battery-electric drayage trucks were not sufficient to meet maximum range requirements, the range capabilities "are sufficient to meet the average shift and daily range of drayage trucks" and the battery-electric truck platform "could meet the range requirements for some meaningful fraction of drayage operations."2	ZE Trucks	See response to Comment Topic #9: Zero-Emissions Technology.

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EJ/WOEIP-47	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	The North American Council for Freight Efficiency predicts that battery- electric trucks will achieve maximum daily range (and maximum freight weight) parity in the 2030 timeframe, meaning that a 2035 target for all electric drayage trucks should be feasible from an operations perspective.3	ZE Trucks	While it may be operationally feasible to have all electric drayage trucks by 2035, it is up to each individual truck owner and licensed motor carrier to determine when it makes sense financially and otherwise to convert its trucks to zero-emissions vehicles. See also the response to Comment Topic #8: Goals.
EJ/WOEIP-51	24-Jan-19	Letter (email)	Khamly Chuop	WOEIP/Earth Justice	Paul Cort	None	As additional manufacturers enter the market and battery costs continue to decline, zero-emissions drayage trucks will become even more competitive. Such benefits, combined with the forced turnover of older diesel trucks currently required under SB1 beginning in 2020, mean that ports will have a critical window to support the transition to zero-emissions trucks serving their facilities.	ZE Trucks	The Plan anticipates the development of an expanded market place for zero-emissions equipment, and improved battery technology. Costs for zero-emissions equipment will be set by the market and equipment owners will make their purchase decisions accordingly. Equipment purchases will factor in considerations such as financial incentives, reliability, and operational performance. See also the response to Comment Topic #8: Goals.
CE-30	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	We urge the Port of Oakland to rethink its plan by incorporating a strategy that encourages and supports both near-zero and zero tailpipe emission technologies in the AQP.	ZE vs NZE	The Port is committed to a pathway to zero emissions, and this vision is broadly supported by the stakeholders, including community-based organizations, regulatory agencies, and industry. The Port will work diligently to encourage adoption of zero-emissions technologies, although the Plan certainly allows for a variety of technologies, and some Port tenants and truckers may choose to use a near-zero-emissions technology as an interim step on the pathway to zero emissions. Also, the Port has added a new suggested Implementing Action, Include Near-Zero Truck Technologies Certified to CARB's Optional Low-NOx Standard, in Table C-3: New Suggested Actions of Appendix C.
CE-26	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Placing the Port of Oakland's clean air future into one technology basket is risky and discourages port businesses from implementing a range of technology options that could meaningfully reduce their environmental footprint sooner and less expensively.	ZE vs NZE	The Plan allows for a variety of technology platforms. The Port will continue to track the development of zero-emissions technologies, and assumes that the market will serve as a driver for the adoption for preferred (most cost-effective and reliable) technologies. Preferred technologies are also likely to be influenced by future regulatory requirements.
CE-28	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	Picking a future winner with very little data to assure the success of such a plan under any reasonable timeline is a missed opportunity for immediate emission reductions that could substantially benefit the Port, the local communities, and the Bay Area today.	ZE vs NZE	See the response to Comment CE-26.
CE-20	16-Jan-19	Letter (email)	Khamly Chuop	Clean Energy	Todd Campbell	Fact Sheet (see CE-29)	The most recent version of the Air Quality Plan (AQP) appears to identify grid-powered battery electric truck technologies as a singular solution to port-related truck pollution even though such a strategy has yet to be commercialized, proven to be a viable alternative in goods movement, or superior in carbon reductions based on the current state of the electrical grid and its use of fossil fuels.	ZE vs NZE	Correct, the Plan assumes, based on the current state of zero-emissions technology, that electric equipment will be the most likely technology for most land-based equipment.

SECTION 3 — WRITTEN COMMENTS

This section provides each of the comment letters and other written materials containing comments. The specific comments are marked in each document.

PORT OF OAKLAND

Name: Bill Abordie

Organization: AB TRUCKING

Comment on December 14, 2018 *Revised Draft Seaport Air Quality 2020 and Beyond Plan*:

PORT NEEDS TO HAVE A LEAD ROLE TO INSTALL ZE PLUGS FOR ALL EQUIPMENT INSTALLED BEFORE 2025, MOST TENANTS ARE ON MONTH TO MONTH. COST OF PERMITS,

TF-54

PORT OF OAKLAND

Name: Paul Konzen

Organization: Pinnacle Ag / CVAG

Comment on December 14, 2018 *Revised Draft Seaport Air Quality 2020 and Beyond Plan*:

How do I connect with Local labor pools.

TF-55

PORT OF OAKLAND

Name: Lily MacIver

Organization: WOEIP / UC Berkeley

Comment on December 14, 2018 *Revised Draft Seaport Air Quality 2020 and Beyond Plan*:

Work force Development

- It would be helpful if a plan to measure and track progress towards local employment, and gaps in resources, were outlined.

TF-56

PORT OF OAKLAND

Name: Lily MacIver

Organization: WOEIP / UC Berkeley

Comment on December 14, 2018 *Revised Draft Seaport Air Quality 2020 and Beyond Plan*:

• Work force Development

- Incentive for West Oakland residents to enter job training at community colleges are important. They might take the form of the port holding a certain # of jobs for local workers, providing scholarships, or helping to fund waivers for college fees.

TF-57

PORT OF OAKLAND

Name: John Berge

Organization: PMSA

Comment on December 14, 2018 *Revised Draft Seaport Air Quality 2020 and Beyond Plan*:

Appreciate the port's outreach to tenants to assess feasibilities. The ports of LA + LBS have not taken ~~as~~ such extensive outreach.

TF-58

PORT OF OAKLAND

Name: DAVID WOOLEY

Organization: UC Berkeley GOLDMAN School

Comment on December 14, 2018 *Revised Draft Seaport Air Quality 2020 and Beyond Plan*:

recommend an effort (staff or consultant) to regularly track price + availability of electric Transport equipment. Costs are likely to fall quickly + outdated cost assumptions could result in poor decision making

TF-59

415-971-1135

PORT OF OAKLAND

Name: DAVID WOOLEY

Organization: UC BERKELEY GOLDMAN School Public Policy

Comment on December 14, 2018 *Revised Draft Seaport Air Quality 2020 and Beyond Plan*:

recommend forming work group to establish system to identify high emission Trucks ~~entering~~ entering port and to notify those truck owners to ~~get~~ repair as condition of continuing to enter ~~port~~ port. It should be an automated system to reduce staff costs. CARB funding could be used for capital costs - but Port cooperation is important.

david wooley 415-271-1135

TF-60

PORT OF OAKLAND

Name: JOWEL C. LAGUERRE

Organization: Peralta Community College District

Comment on December 14, 2018 *Revised Draft Seaport Air Quality 2020 and Beyond Plan*:

- The Port might to serve as a convener between the operators and education agencies
- support an environment that support a trained workforce - Be persistent - Don't leave for our agencies of the hook -.

TF-61

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Todd R. Campbell
Vice President Public Policy & Regulatory Affairs

Clean Energy

January 16, 2019

Khamly Chuop
Port Associate Planner/Scientist - Environmental
Port of Oakland
530 Water Street
Oakland CA 94607

Re: Follow-up Comments on the Port of Oakland's Seaport Air Quality Plan

Dear Ms. Chuop:

Thank you for considering additional comments on the Port of Oakland Seaport Air Quality Plan (AQP). Our comments issued on the Draft AQP made the case for the Port of Oakland to include near-zero truck technologies that are certified to the California Air Resources Board's (CARB) most stringent optional low-NOx standard of 0.02 g/bhp-hr as an immediate strategy to reduce harmful port-related emissions from heavy duty trucks. The comparative benefits that near-zero technologies provide compared to zero-tailpipe emission strategies include:

- An optional low NOx CARB certification that delivers 90% less NOx emissions than the current EPA and CARB heavy duty engine standard and an in-use performance according to UC Riverside that found NOx emission reductions at 95% or 0.01 g/bhp-hr;
- A strategy that is 99% cleaner than the diesel trucks currently operating in and around the Port based on the fleet's average model year;
- 70% to well over 100% lower greenhouse gas emissions compared to conventional diesel when powering a near-zero truck with renewable natural gas (RNG) – a fuel that can deliver up to a negative 250 carbon intensity score;
- 90% quieter than diesel engines;
- Commercially available now to deliver reliable emissions relief today;
- Fueling infrastructure already in place with plans to further increase statewide fueling network as the market grows; and,
- Far lower cost and more cost effective than any other competing technology with comparable performance.

The most recent version of the Air Quality Plan (AQP) appears to identify grid-powered battery-electric truck technologies as a singular solution to port-related truck pollution even though such a strategy has yet to be commercialized, proven to be a viable alternative in goods movement, or superior in carbon reductions based on the current state of the electrical grid and its use of fossil fuels. Given the substantial impacts of port-related pollution on neighboring communities and the region at large, it would be advisable to include all advanced clean strategies within the AQP that can offer immediate and deep criteria pollutant and carbon

CE-18

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CE-21

emissions reductions for port operations as soon as possible. By doing so, the Port Authority will have the ability to help mitigate port-related truck pollution if electric trucks are delayed or fail to meet commercially viable operations. Certainly the Port Authority would be better positioned as a good neighbor by taking proactive measures now that prevent the surrounding port communities from being further subjected to harmful air pollution for another decade. Failure to implement an immediate strategy will also leave climate pollution unabated despite clear indications that our oceans are warming at a faster rate than predicted causing sea level rise that could impact future port operations. Precious time will be lost and tens, if not hundreds of millions, of public dollars could be wasted, not to mention the external public health costs to our communities. Further, the Port of Oakland could be put at a competitive disadvantage to other ports that have more diversified strategies in their plans to mitigate their emissions on a more immediate basis (i.e., the San Pedro Bay Ports' Clean Air Action Plan).

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CE-24

CE-25

Placing the Port of Oakland's clean air future into one technology basket is risky and discourages port businesses from implementing a range of technology options that could meaningfully reduce their environmental footprint sooner and less expensively. Rather than prematurely picking a technology winner, the Port should embrace performance-based standards that support both zero and near-zero emission strategies that are powered by renewable fuels. Picking a future winner with very little data to assure the success of such a plan under any reasonable timeline is a missed opportunity for immediate emission reductions that could substantially benefit the Port, the local communities, and the Bay Area today.

CE-26

CE-27

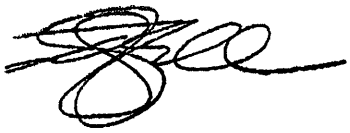
CE-28

The enclosed fact sheet provides thoughtful and compelling information that supports near-zero playing a role in helping the Port of Oakland achieve results that clean the air now without breaking the bank or requiring massive infrastructure investments. We urge the Port of Oakland to rethink its plan by incorporating a strategy that encourages and supports both near-zero and zero tailpipe emission technologies in the AQP.

CE-29

CE-30

Sincerely,



Todd Campbell
Vice President, Public Policy & Regulatory Affairs

cc:
Chris Lytle
Richard Sinkoff
Diane Heinze
Catherine Mukai
Jack Broadbent

Cleaner Air Starts with Cleaner Trucks.

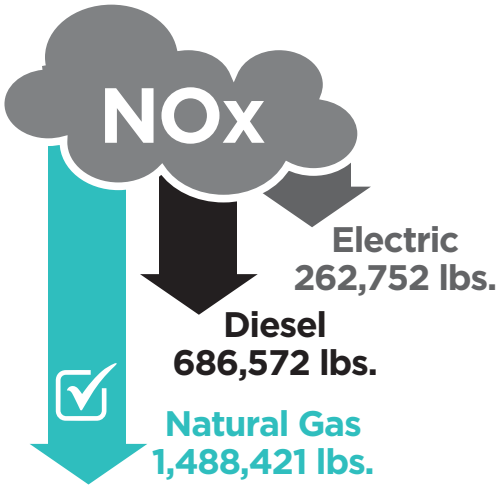
From small fixed-route haulers and port drayage companies to major parcel deliverers and national freight carriers, heavy-duty (HD) natural gas trucks are providing fleets of all sizes with considerable fuel savings and environmental benefits.

Ultra Low-NOx Natural Gas Trucks provide the proven and commercially-ready-right-now power, performance, and range required for reliable goods movement.

Make a Difference

with Natural Gas Heavy-Duty Trucks

Lifetime Pounds of NOx Reduced



Figures above represent the lifetime emission reduction benefits of using $10 million to replace older diesel vehicles with new, cleaner trucks. For purposes of the calculations here, it is assumed that VW Settlement Funds are used to offset 25% of the cost of each new natural gas and diesel HD truck and 75% of the cost of a new electric HD truck, as allowed by the Trust.

Road Ready & Ready to Deploy... Every Class. Every Application

The VW Settlement's Environmental Mitigation Trust (EMT) Fund provides millions in funding for states to replace older diesel vehicles with new cleaner trucks and buses that reduce NOx emissions. Other federal and state programs provide varying levels of incentives to encourage fleets to purchase new, cleaner trucks. New natural gas trucks deliver the greatest amount of emission reductions for the dollars spent (cost-effectiveness based on full cost of each technology).

	Natural Gas	Diesel	Electric
Technology Cost	$150,000	$100,000	$290,000
NOx Reduced	5,582 lbs	1,716 lbs	5,715 lbs

Natural Gas Achieves the Most Cost-Effective NOx Emissions Reductions

When comparing the cost of NOx reduction, natural gas HD trucks are **53 percent** more cost effective than diesel alternatives and **47 percent** more cost effective than electric options.

**Emission comparisons are based on results using Argonne National Laboratory's HDVEC tool (https//afleet-web.ex.anl.gov/hdv-emissions-calculator/) and include modeling of new low-NOx natural gas engines and the diesel in-use emission option.*

Find out more about championing reduced truck emissions and realizing real fuel savings for your fleet at **www.ngvamerica.org**.

NGVAMERICA
Natural Gas Vehicles for America

The Fastest Way to Combat On-Road Carbon and Achieve Zero Emissions Now

The cleanest HD truck engine in the world runs on natural gas. The Ultra-Low NOx natural gas engine — made in America — is 90 percent cleaner than the EPA's current NOx standard. It is certified by both the EPA and the California Air Resources Board to a 0.02 gram per brake horsepower hour (g/bhp-hr) standard, making it zero-emission equivalent (ZEE) or cleaner when considering power generation on a life-cycle basis.

When renewable natural gas (biomethane) captured from landfills, wastewater, and food and agricultural waste is used to fuel it, unsurpassed CO2 and GHG emissions reductions are achieved, helping to clean our cities and improve the environment. With renewable natural gas, the product becomes carbon neutral or even negative.

Sources: U.S. Environmental Protection Agency and the California Air Resources Board

Heavy-Duty = Big Impact

Replacing one traditional diesel-burning heavy-duty truck with one, new Ultra Low-NOx natural gas heavy-duty truck is the emissions equivalent of removing 119 traditional combustion engine cars from our roadways.

Figures compiled using: https://greet.es.anl.gov/afleet_tool.

Lower Fuel and Maintenance Costs

Natural gas trucks are easier to maintain than diesel counterparts:
• No diesel particulate matter filter regeneration or waste
• No selective catalytic reduction • No diesel emissions fluid

Clearing the Air Doesn't Have to Break the Bank

Natural gas trucks offer a fast return-on-investment (ROI) due to low fuel and maintenance costs.

With today's oil prices, natural gas prices can be $.75 to $1.50 or more lower than diesel at the pump. This price differential quickly translates into substantial fuel savings for HD fleets.

$144,000
fuel savings per truck

(for anticipated 12 year vehicle life)

Calculate Natural Gas Emissions Benefits Yourself

Compare emissions of commercially-available alternative fuel medium- and heavy-duty vehicles with the Heavy-Duty Vehicle Emissions Calculator (HDVEC) tool.

Developed by the U.S. Department of Energy's Argonne National Laboratory using its AFLEET Tool 2017, this online resource aids school bus fleet managers and decision makers in comparing vehicle emission reduction options to assist inmaximizing their new vehicle funding investment.

Accessible online at: http://afleet-web.es.anl.gov/hdv-emissions-calculator/ or http://www.ngvamerica.org/vwactioncenter/.

HEAVY-DUTY VEHICLE EMISSIONS CALCULATOR

Find out more about championing reduced truck emissions and realizing real fuel savings for your fleet at **www.ngvamerica.org**.

NGVAMERICA
Natural Gas Vehicles for America

From: Oley, Ryan <roley@centerpoint.com>
Sent: Wednesday, January 16, 2019 12:45 PM
To: Surlene Grant <sggrant@envirocommunications.com>
Subject: RE: Port of Oakland Air Quality Task Force Meeting

Good afternoon Surlene,

Please see questions below following the Seaport AQ Task Force Meeting last week:

1. How will the Port determine how grants should be distributed amongst tenants or which tenants they assist in receiving incentives? CPP-22
2. In terms of reporting, how will the term "Periodic" be defined (e.g. semiannual, biennial, etc.)? CPP-23
   If EI's are completed by the Port, what effort will be required by tenants e.g. recordkeeping requirements, document submittals, etc? CPP-24
3. Some efficiency measures may have a "cost to tenants" – are any of these measures mandatory and have they been scoped out for the Near-Term Action Plan? CPP-25
4. To help tenants minimize disruption, are there any plans to expedite permitting/regulatory processes for activities required by the tenants as part of the 2020 and Beyond Plan? CPP-26

Thank you,

Ryan

Ryan Oley
CenterPoint Properties
Development Manager | 510.506.1947 | roley@centerpoint.com

January 22, 2019

Mr. Chris Lytle
Executive Director
Port of Oakland
530 Water Street
Oakland, California 94607

Dear Mr. Lytle:

Thank you for developing and releasing a Revised Draft Seaport Air Quality 2020 and Beyond Plan (Revised 2020 Plan), and providing California Air Resources Board (CARB) staff and the public a second opportunity to comment on this pivotal planning document for the Port of Oakland (Port). We appreciate the numerous improvements to the Plan and the second public review process, and continue to urge the Port to commit to additional transformative actions beyond those listed in the Revised 2020 Plan. Those actions, as described in this letter, are critical to protect local communities from exposure to harmful air pollution and should be included in the Plan prior to adoption. CARB-51 CARB-52 CARB-53

Since we submitted our initial comment letter on the Draft 2020 Plan (attached), CARB's governing board identified West Oakland as one of the 10 initial communities for focused action pursuant to Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017). As a selected community with high cumulative exposure burden to air pollution, more aggressive near-term actions to improve public health are critical to dovetail with the five-year planning horizons for West Oakland. Echoing the comment from Ms. Margaret Gordon of the West Oakland Environmental Indicators Project during the January 10, 2019 Task Force Meeting, we agree there needs to be merging of the AB 617 effort for West Oakland and the Revised 2020 Plan to achieve "mitigations for workers and residents nearby the Port." The Port can position itself, its tenants, and its transportation operators, to leverage funds and planning efforts to improve air quality and system efficiencies in a way that serves the community and the Port's bottom line. CARB-54 CARB-55 CARB-56

We continue to support the Revised 2020 Plan's focus on the necessary transition to zero-emission operations to protect public health and combat climate change. We are encouraged that the Revised 2020 Plan includes more detail on the Port's ongoing planning, tracking, and evaluation activities, as well as efficiency initiatives, to reduce emissions and protect community health, while increasing operational efficiencies and remaining competitive with other West Coast ports. CARB-57 CARB-58

CARB strongly recommends further revision of the Revised 2020 Plan prior to consideration by the Board of Port Commissioners on April 25, 2019:

1. Commit to additional actions, especially in the near-term phase (2019-2023), to provide health benefits for West Oakland, an AB 617 community;
2. Establish sector-specific zero-emission goals detailing the Port's vision for the transition to a zero-emission seaport; and
3. Revise and clarify details of newly incorporated material in the Plan document.

CARB-59

Commitment to Additional Actions

CARB urges the Port to commit to adding at least the following strategies for its Near-Term Action Plan (2019-2023). The majority of these actions create policies that would require no net financial investment from the Port or its tenants. Staffing for implementation would not be solely incumbent upon the Port itself.

CARB-60

- High-Emitting Truck Detection System (E-T-6). CARB funded the University of California, Berkeley evaluation of in-use trucks serving the Port, and has since developed its own advanced detection system, the Portable Emissions AcQuisition System (PEAQS). This provides CARB the ability to detect automatically, and in real-time, trucks with high emissions. In 2018, CARB amended its statewide inspection programs to lower opacity limits for trucks equipped with diesel particulate filters. Lowered opacity limits support our ability to identify and require repair of the subset of high polluting drayage trucks affecting West Oakland. We are asking the Port to collaborate with CARB to determine how PEAQS or other advanced detection systems can be used to identify trucks with high emissions for citation and repair. The Center for Environmental Public Policy at the University of California, Berkeley submitted recommendations on this issue and may be interested as well.

CARB-61

- Ship Rates and Incentives (O-4 and O-6). The Revised 2020 Plan indicates that ships remain the single largest contributor of emissions from the Port; therefore, all emission reduction measures for ships are urgently needed. One potential implementation action, O-6, describes the Port offering financial incentives for ships with lower-emitting engines, cleaner burning fuels, and shore power capabilities. Separately, potential implementation action O-4 quantifies the potential emission reductions from implementation of a voluntary vessel speed reduction (VSR) program. The Port should commit to adopting a berthing rate structure that rewards ships with lower in-transit and/or at berth emissions. A Port commitment for a voluntary VSR does not need to wait until the completion of the Bay Area Air Quality Management District pilot study.

CARB-62

- Request Railroads to Use Cleanest Engines in Oakland (E-L-5). CARB's 2008 Health Risk Assessment for West Oakland identified off-port locomotive emissions as a significant contributor to health risk in the West Oakland community. Initiatives to reduce emissions from the port should also consider emissions from nearby off-port rail yards, especially considering that a significant fraction of freight is transported in sequence through both facilities. Therefore, the Port should not delay to request and coordinate with neighboring Class 1 rail yards to use the cleanest available locomotive propulsion technologies on their proprieties. CARB-63

- Infrastructure Planning and Investment. We previously suggested that Port begin infrastructure investments in the Near-Term (2019-2023) instead of waiting until the Intermediate Term (2023-2030). We are supportive of the additional equipment and infrastructure actions in the Revised 2020 Plan, but urge the Port to begin deploying more widespread electrical infrastructure and modifying electrical substations now. CARB-64

The Maritime Power Capacity Study for Terminal Electrification is expected in Spring 2019, and early upgrades will begin laying the groundwork for zero-emission maritime operations. Earlier investments in infrastructure will accelerate the adoption of zero-emission equipment instead of next-best alternatives, and will also allow infrastructure projects to remain competitive for local, State, and/or federal incentive opportunities. CARB-65

To address the lack of space for truck charging infrastructure that is cited in the response to comments on the Draft Plan, we strongly encourage the Port to work with the City of Oakland to identify space within the entire former Oakland Army Base property for this need. This action is to help mitigate the impacts of the expanded on- and off-port freight activities occurring in response to development of that property by both the Port and the City. CARB-66

Establishing Sector-Specific Zero Emission Goals CARB-67

CARB staff supports the Revised 2020 Plan's overall strategies to promote pathways to zero-emission technologies. CARB-68 As indicated in our initial comment letter, we reiterate the urgency to set transformative and ambitious zero-emission goals beginning in the near-term phase. CARB-69 We recognize a number of specific and conflicting suggestions were received for achieving percentages of zero-emission equipment by a certain date, which cannot all be accommodated because some conflict with each other.

We urge the Port to respond to CARB's initial comments and those received from other stakeholders by identifying target dates for a percent of zero-emission equipment that should be possible for a given sector. These goals or targets can be included as sub-bullets in Strategies #2 and #3, which are currently listed on Page 4 of the Revised 2020 Plan. By establishing specific zero-emission performance goals, the Port will send clear signals to industry and tenants to invest in cleaner technologies. Further, early adoption of advanced technologies will expand opportunities for local, State, and federal funding that typically sunset before statewide requirements take effect. CARB-70 CARB-71 CARB-72

Enhance and Revise the Plan

The Port should further amend its Revised Draft 2020 Plan to include the following changes.

- Geographic domain of the emission inventory. The 2015 and 2017 calendar year inventories underestimate port emissions because the methodologies do not attribute emissions from trucks or locomotives before they enter or after they leave the port boundary. The impact of the narrow domain in the Revised 2020 Plan is that the emission sources for trucks and locomotives appear disproportionately small relative to their actual impact to the surrounding community and air basin. We recognize that the contribution to the emission inventory may not be directly proportional to a source's cancer risk determined through a health risk assessment. However, it is essential that the Port direct its consultants to use available activity data and CARB on-road and off-road models to calculate emissions of trucks and locomotives outside the port boundary for cargo being transported to and from the port. CARB-73

- Emission reductions, port staffing, and financial investments. Some, but not all potential and identified Implementation Actions (Table 2 and Appendix C) include emission benefits or cost information. The Revised 2020 Plan includes substantial detail and consideration for each (potential) action, but it is not clear to stakeholders or other readers whether the Port considers an action to not be feasible due to port staffing, funding limitations, or other reasons. The Port should expand analysis of potential implementation actions to include emission reductions expected, estimated port staffing, and required financial investments. Objective criteria for each action will help prioritize and direct funding to the most effective projects. CARB-74

- Adjustments to cost methodology in Appendix F. We request two edits to this section:

  1. The cost analysis for operating expenditures (OpEx) do not include a recently available credit through CARB's Low Carbon Fuel Standard (LCFS) beginning in 2019. Yard tractors, other cargo handling equipment, transport refrigeration units, and ocean-going vessels at berth are now eligible for generation and sale of credits for zero-emission operation. In some cases, including yard tractors, credit sale revenues may exceed the assumed cost of electricity at $0.15/kW-hr. The Port should revise OpEx assumptions to account for LCFS credit values.

  2. Figure F.10 presents the expected year that a single year of operating expenditures will be less than the increased capital cost of a zero-emission yard tractor, both with and without the current vouchers. The target dates of 2022 and 2038 do not provide a useful statistic because many yard tractors are operated for five years or longer. Instead, we suggest presenting the operational time (with cost savings realized over several years) to break even in a specific calendar year.

CARB-75

Our individual commitments for action and effective collaboration are critical to achieve our mutual vision to transform freight operations at the Port of Oakland and across California. CARB urges the Port to reconsider our comments on the initial Draft and specifically those highlighted in this letter on the Revised 2020 Plan. With an expanded commitment to additional near-term actions, we are confident of the Port's ability to lead the transition to a zero-emission seaport with its tenants, plus the ocean carriers, railroads, and trucking firms serving the port.

CARB-76

CARB-77

If you have any questions, please contact Cynthia Marvin, Chief of the Transportation and Toxics Division, at (916) 324-0062 or via email at cynthia.marvin@arb.ca.gov.

Sincerely,

Richard W. Corey
Executive Officer

Attachment

cc: See next page.

cc: Elizabeth Adams
Director, Air Division, Region 9
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

Jack Broadbent
Co-Chair, MAQIP Update Task Force
Bay Area Air Quality Management District
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Kimi Watkins-Tartt
Interim Director
Alameda County Public Health Department
1000 Broadway Suite 500
Oakland, California 94607

Cynthia Marvin, Chief
Transportation and Toxics Division

September 5, 2018

Mr. Chris Lytle
Executive Director
Port of Oakland
530 Water Street
Oakland, California 94607

Dear Mr. Lytle:

Thank you for providing the California Air Resources Board (CARB) staff the opportunity to comment on the Port of Oakland's Draft Seaport Air Quality 2020 and Beyond Plan (2020 Plan). The Draft 2020 Plan articulates the necessary, longer-term objective to transition to zero-emission maritime operations, and outlines a framework for guiding the selection of actions that will achieve emission reductions. The objectives and framework demonstrate very positive intent, but must be backed by clear commitments from the Port for specific actions to cut emissions, protect the health of neighboring communities, and combat climate change.

We urge you to revise the draft 2020 Plan to identify and commit to measurable near-term steps, with defined implementation dates, to further reduce emissions from sources operating on Port property and sources carrying cargo destined for export or import through your facility. With the addition of this specificity, we are confident of the Port's ability to lead the transition to a zero-emission seaport with its tenants, plus the ocean carriers, railroads, and trucking firms serving the port. Your initiatives to increase operational efficiency are an essential complement to the use of zero-emission equipment to improve competitiveness, consistent with the multi-agency California 2016 Sustainable Freight Action Plan.

Both the emission reduction commitments and efficiency gains you identify in the revised 2020 Plan will be important contributions to support community emission reduction programs being developed in response to Assembly Bill (AB) 617 (Garcia, Chapter 136, Statutes of 2017). The State of California, through the passage AB 617, placed additional emphasis on protecting local communities from the harmful effects of air pollution and high exposure burdens. In response, CARB established the Community Air Protection Program (CAPP) to work with local air districts, community groups, industry, and others to develop a community focused action framework.

Recently, CARB staff recommended the community of West Oakland, and six others throughout California, for Board approval in September 2018 to begin developing an emission reduction program. Additional State funding will be available through AB 617 to achieve quantifiable emission reduction targets beyond existing actions to further reduce air pollution disparities. The Port can position itself, its tenants, and its

transportation operators, to leverage those funds to improve air quality and system efficiencies in a way that serves the community and the Port's bottom line.

In March 2018, CARB committed to develop new regulations and strengthen existing programs to transition a variety of freight sectors to zero and near-zero emission operations, including sources serving the Port. These actions will dovetail with the vision of California's 2016 Sustainable Freight Action Plan for a freight system that can "transport freight reliably and efficiently by zero emission equipment everywhere feasible, and near-zero emission equipment powered by clean, low-carbon renewable fuels everywhere else."

We are looking to the Port to establish synergistic policies as you have previously done. For example, our organizations successfully collaborated to strengthen local compliance with statewide air quality regulations through Port actions, like monitoring truck entry and turning away non-compliant drayage trucks. With the Bay Area Air Quality Management District, all three organizations partnered to bring cleaner technology to the Port in advance of statewide requirements, aided by substantial public incentives. Moving forward, our individual commitments for action and effective collaboration are even more critical to achieve our mutual vision to transform freight operations at the Port of Oakland and across California.

We have attached specific comments and recommendations that we urge the Port of Oakland to incorporate in the revised 2020 Plan to protect public health, improve air quality, fight climate change, and increase efficiency. We look forward to working with you and your staff on these objectives. We also ask that you release this revised Plan for public review prior to consideration by the Board of Port Commissioners.

If you have any questions, please call me at (916) 445-4383 or have your staff contact Cynthia Marvin, Chief, Transportation and Toxics Division, at (916) 324-0062 or via email at cynthia.marvin@arb.ca.gov.

Sincerely,

Richard W. Corey
Executive Officer

Attachment

cc: See next page

cc: Elizabeth Adams
Acting Director
Air Division, Region 9
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

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Oakland, California 94607

Cynthia Marvin, Chief
Transportation and Toxics Division

Attachment to California Air Resources Board Staff Comments on the Draft Port of Oakland Seaport Air Quality 2020 and Beyond Plan
September 5, 2018

The California Air Resources Board (CARB) staff provides the following detailed comments and recommendations for the Port of Oakland to consider as you move toward a revised version of the Seaport Air Quality 2020 and Beyond Plan (Plan) for presentation to the Port's Seaport Air Quality Task Force meeting scheduled for September 26, 2018. We also specifically ask that the Port release the full revised Plan for public review prior to consideration by the Board of Port Commissioners.

- Emission Inventory: At our meeting on August 16, we were pleased to hear that the calendar year 2015 inventory used in the Draft Plan will be replaced with an updated 2017 inventory in the revised Plan. Because the 2015 methodology underestimates Port emissions, this a crucial update. In addition, the following analyses should be performed and included in the revised Plan.

    1. The geographic domain needs to be expanded to include emissions from trucks and locomotives after they leave the Port boundary. Limiting emissions of trucks and locomotives to operations only on Port property does not adequately capture or address the near-source toxics exposure or regional contribution of emissions associated with freight transport to and from the facility. The port should expand the domain of emissions from trucks and locomotives out to the cargo's first point of rest or to the boundary of the air basin, whichever comes first. This approach is used by both the Ports of Los Angeles and Long Beach when updating their emission inventories.

    2. We are pleased to hear that CARB's latest on-road mobile emissions model, EMFAC2017, will be used to in the updated inventory to more accurately characterize the real-world emissions of diesel trucks when traveling through nearby communities. This approach will incorporate results of more comprehensive laboratory testing, and the frequency of diesel particulate filter (DPF) failures observed during the UC Berkeley roadside plume measurement study.

    3. The Union Pacific intermodal rail yard, located immediately adjacent to the Port and State Route 880, handles some of the Port's cargo, but is not included in the inventory. CARB recognizes that the Union Pacific rail yard, unlike the Oakland International Gateway (OIG) and the Oakland Global Rail Enterprise (OGRE) rail facilities, is not on port property. However, the Port should develop and apply a methodology that incorporates the emissions associated with moving cargo that orginates or is destined for the Port.

    4. Emissions from diesel-powered Transport Refrigeration Units (TRUs) can significantly affect cancer risk in the communities adjacent to the Port and

access roadways. We recommend that you quantify and include emissions from TRU generator sets, and TRU engines, for both on-port operation and the same geographic domain as listed above for trucks and locomotives, and reflected in the revised Plan.

- Trucks: We appreciate the role and influence of the Port on reducing truck emissions over the past decade through the monitoring at terminal gates and turning away of trucks that are not compliant with CARB's Drayage Truck Regulation. As you've heard extensively, community members in West Oakland and others remain concerned with truck queuing and idling outside terminals, as well as emissions and safety concerns with truck traffic and idling in their neighborhoods. We recommend the following:

  1. The Port should establish the following zero-emission targets for drayage trucks servicing the port:

     a. By 2021, the port should require zero-emission truck operation for transport of containers on-site and between terminals, as well as to nearby rail yards, or other freight facilities. This could be achieved by developing a concession program, where companies have responsibility and oversight for short-haul operations between terminals, and between local rail yards such as the adjacent Union Pacific intermodal rail yard that handles a large amount of port cargo through its facility.
     b. By 2035, the port should establish a goal of 100% zero-emission drayage trucks servicing the port, with interim milestones for the transition. This goal will align with the San Pedro Bay Ports' Clean Air Action Plan 2017 Update.

  2. CARB recognizes the Port's efforts over the past years to reduce truck congestion. We understand from Port communications that after beginning nighttime operations for a $30 fee, average truck wait times have reduced by 50 percent, but are still at 60 to 90 minutes per truck on average. We appreciate the Port's efforts with the City of Oakland to develop a Truck Management Plan to continue addressing truck congestion, routing, and operation in neighborhoods. Public meetings held in spring and summer 2018 suggest that under the auspices of the Truck Management Plan, the City and Port will convene an efficiency task force, include outreach and local code enforcement, and refine truck appointment systems. We support these efforts to address long-standing community concerns and increase operational efficiency.

     We encourage the Port continue to work with the City to install adequate signage in neighborhoods and along truck routes, and to enforce local ordinances when violated. The Port should also partner with community groups to apply for Supplemental Environmental Projects (SEP) grants to

receive funding for local initiatives. CARB can provide further information on this potential funding source. These funds originate from settlement dollars of violators of environmental regulations. The community of Bayview Hunters Point near the Port of San Francisco has achieved success in reducing illegal truck idling after receiving funding through an approved SEP to install signage and conduct other outreach in that community.

3. The San Pedro Bay Ports, through the Clean Air Action Plan, implemented a Clean Truck Program about a decade ago that established fees to be paid by beneficial cargo owners on gate moves performed by compliant but more polluting trucks. The program was very successful in cleaning up the fleet in advance of statewide requirements, generating revenue for the development and advancement of lower and zero-emitting technologies, and reducing community cancer risk. In the San Pedro Bay Ports' program, fees were established commensurate with the emission standards applicable to each truck, which sent appropriate price signals. Those ports are evaluating potential rate structures for the new program to accelerate the introduction of zero and near-zero emission trucks. Considering these successes elsewhere, CARB staff recommends the following for the Port of Oakland:

    a. Today, the Port should continue banning trucks not equipped with model year (MY) 2007 or newer engines as required by CARB's Drayage Truck Regulation. This voluntary initiative has been, and will continue to remain, an effective tool to maximize the benefits of statewide rules.
    b. By 2023, the Port should use the Drayage Truck Registry to begin banning trucks not equipped with MY 2010 or newer engines pursuant to CARB's Truck and Bus regulation.
    c. By 2023, the Port should implement a rate (i.e. fee) structure, where cargo owners would pay more for each gate move if the trucks carrying their goods are not using the cleanest commercially available technologies.

- Ocean-Going Vessels: CARB recognizes that a major source of prevailing diesel PM (and health risk) originates from vessels, especially while vessels transit to and from berths at the Port. We are encouraged to see strategies in the draft Plan for reducing in-transit emissions, such as vessel speed reduction (VSR) and joining incentive programs to attract lower-emitting ships to the Port of Oakland. However, the Port should commit to implementation dates in the near-term to provide the earliest possible emission reductions from vessels. We make the following recommendations:

    1. By 2020, the Port should join one of the international vessel environmental performance incentive programs, such as the Environmental Ship Index (ESI) Incentive Program used by the Port of Los Angeles. Providing lower docking fees or other financial incentives to attract cleaner vessels and reward vessel

measures that go beyond requirements will increase emission reductions within the Bay Area and other surrounding West Coast ports.

2. By 2020, design and implement a VSR program that would reduce emissions from vessels in transit to the greatest extent possible. CARB recommends that a VSR zone that begins outside the Golden Gate Bridge.

3. By 2020, require, where feasible, use of shore power for 100 percent of visits by vessels equipped with shore power. CARB's existing regulation already requires an equipped vessel at an equipped berth to connect. This recommended measure should include responsibility for the marine terminal operators to provide access to shore power connections for each vessel equipped to plug in, accelerating the anticipated CARB requirements.

4. By 2020, set interim goals for demonstrating and deploying alternative systems to control vessels when shore power is not available.

- Locomotives: With growing rail traffic serving the Port, whether on-site or from adjacent rail yards, locomotive operations present a serious risk to public health that will increase over time. Further, emissions from locomotives affect regional attainment of ambient air quality standards in the Bay Area and its downwind neighbors. In response, CARB has requested that the U.S. Environmental Protection Agency (U.S. EPA) establish more stringent national standards for remanufactured locomotives to take effect in 2023 and a new Tier 5 standard to take effect in 2025, including a requirement that newly built locomotives be capable of limited zero-emission operation.

  At a local level, the Port needs to use its control of or its influence over rail operations to take more aggressive action to accelerate turnover to the cleanest available technologies. We acknowledge the incentive funded project described in the draft Plan to replace an old switcher locomotive with a new Tier 4 switcher at the OGRE rail yard – the revised Plan should significantly expand the rail emission reduction actions.

  1. The Port should support CARB's Tier 5 petition to U.S. EPA with a written letter (other support letters are posted on CARB's rail activities website) and seek partners to demonstrate the use of Tier 5 equivalent locomotives in the three rail facilities.

  2. For the OIG and OGRE rail yards, which are on port property, the Port should set specific targets to cut emissions by replacing switchers with zero-emission railcar movers, or zero-emission locomotives. These types of projects are eligible for several local, State, and federal incentive programs.

3. For the Union Pacific Rail Yard that located between the Port and West Oakland community, the Port should use its relationship with the railroad to encourage a clear strategy and cooperative plan for replacing locomotive engines with cleaner technologies.

4. The Port's revised Plan should utilize the full range of mechanisms available to the Port (e.g., lease conditions or other incentives) to achieve idling reductions ahead CARB requirements to be developed for rail yard operations.

- Cargo Handling Equipment: We recognize the emission benefits and positive steps the Port has taken to reduce emissions from cargo handling equipment. The draft Plan features a repower project of 13 rubber-tired gantry (RTG) cranes as a key near-term action to reduce emissions, and also outlines the potential demonstration of six additional pieces of equipment upon receipt of a grant. Recognizing that zero-emission technologies are rapidly advancing in this sector, we provide the following recommendations as minimum targets that can be established today:

    1. In the revised Plan, the Port should establish a target to achieve 100 percent zero-emission yard trucks by 2023. Today, there are commercially-available technologies manufactured by several companies such as OrangeEV and BYD that should be able to meet the demands of a seaport within the next five years.

    2. In the revised Plan, the Port should establish a goal of 100 percent zero-emission RTG cranes by 2026. In this particular sector, repower or conversion kits are available for a fraction of the cost of replacing the entire RTG crane. Further, zero-emission technologies do not need batteries to power all of their operations; instead, they can operate using direct power technologies using cable reels or conductor rails when lifting and lowering containers. A number of ports around the world have been retrofit to electrify RTG crane operations and reduce emissions, save money on maintenance and fuel, and improve efficiencies.

    3. In the revised Plan, the Port should consider a goal of 100 percent zero emission cargo handling equipment by 2030. Establishing targets earlier than statewide regulations will ensure the Port and its tenants remain eligible for a wider range of incentive funding opportunities when repowering or replacing older equipment.

- Infrastructure: In March 2018, CARB committed to a number of freight actions for Board consideration over the next five years, with potential implementation beginning as early as 2021. The actions will transition a wide range of freight equipment toward zero-emission technologies and operations, including drayage trucks, TRUs, commercial harbor craft, cargo handling equipment, and locomotives. With regulatory pressures and incentives available for early action, the Port's

customers will expect infrastructure to support operation of zero-emission equipment within the next few years.

We recognize the Port will need to fund infrastructure over time and design a resilient and reliable system, with the unique challenge of multiple electrical service providers. However, the Port should not wait until the Intermediate Term (2023-2030) to begin upgrading its infrastructure to provide expanded charging and fueling capability at berth and on terminals that can support that equipment.

1. The Port should commit to upgrading specific components of infrastructure within the Near-Term (2018-2023) phase, which will help the Port and its tenants to remain eligible for incentive dollars that require projects to be completed in advance of statewide requirements.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

January 24, 2019

Mr. Danny Wan
Interim Executive Director
Port of Oakland
530 Water Street
Oakland, CA 94607

RE: Revised Draft "2020 and Beyond" Seaport Air Quality Plan

Dear Mr. Wan:

Thank you for the opportunity to provide comments on the revised draft to the Port's "2020 and Beyond" Seaport Air Quality Plan. The Bay Area Air Quality Management strongly supports the Plan's vision to transition the Seaport operations to zero emissions "…through changes in equipment, operations, fuels, and infrastructure. We appreciate that Port staff have incorporated into the Revised Draft Plan some of the comments that were submitted during the first review period calling for a clearer set of specific commitments and timelines for the purchase of zero emission trucks and equipment, however the Revised Draft Plan still falls short of showing a clear glide path towards zero emissions. BAAQMD-21 BAAQMD-22 BAAQMD-23

Air District staff recommend that the following changes be made to the Revised Draft Plan prior to consideration by the Board of Commissioners:

- Add health costs and benefits to the Port's feasibility criterion. The Air District, the California Air Resources Board and the Alameda County Health Department can all be useful partners in this effort. The Air District can specifically help by sharing the data and health metrics being developed as part of the technical studies in support of the West Oakland Community Action Plan. A clearer understanding of the specific waterfront sources most impacting local health can help inform the timing of the Port's transition to zero emissions. BAAQMD-24 BAAQMD-25 BAAQMD-26

Commit to providing financial support and to expedite the electrical upgrades that are needed to realize the Port's transition's to zero emissions. The Revised Plan relies too heavily on non-Port sources of funding and others' efforts for the implementation of new clean technology, equipment, fuels, and infrastructure. The Air District has invested well over $100 million in grant funding for clean vehicle and equipment Port-related projects over the past decade, and while the Air District anticipates that another $100 million in funding may be available over the next five to ten years for the purchase of zero emission equipment and trucks, these funds are subject to periodic review and BAAQMD-27 BAAQMD-28 BAAQMD-29

renewal, are not guaranteed, and will be insufficient to meet the demand to achieve the Port's vision. As such, the Port's Plan should evaluate and commit to strategies that are within the Port's authority, such as the implementation of container fees to generate revenue for Clean Air projects, the inclusion of conditions on tenants on future lease agreements to require clean and zero emissions technology, and a plan to expedite a coordinated effort to upgrade electrical capacity for all tenants. We urge the Port to develop an alternative plan to achieve zero emissions that relies on funding and efforts from both Port and non-Port sources.

BAAQMD-29

BAAQMD-30

BAAQMD-31

- Establish an *independent* review process for determining the pollution exposure reduction benefits from and the technical and economic feasibility of clean fuels, zero emission trucks and cargo handling equipment, and low-emission engines for harbor craft and locomotives. This review process should rely upon the Task Force to develop a shared consensus of which technologies are the best fit for the trucks and equipment used to move freight at the Port.

BAAQMD-32

The specific role of the Task Force needs to be more clearly describe in the final Plan. There were, in the comments to the initial Draft Plan, many suggested actions from the Port's local community, industry and public partners, which pre-date the development of the "2020 and Beyond" Plan. The placing of these ideas in an Appendix, unexamined by Port staff, unfortunately, and we believe, erroneously suggests that actions recommended by Task Force members are not being fully considered. We urge the Port, at a minimum, to screen these suggestions using the feasibility criterion listed on Page 15 of the Revised Draft Plan.

BAAQMD-33

BAAQMD-34

- The conceptual yard truck replacement scheme discussed in Appendix F is very useful in understanding many of the economic and technical issues in moving to zero emissions. We encourage the Port to extend this analysis to other types of cargo handling equipment. The extended analysis should utilize the fleet data from the *2017 Seaport Emissions Inventory* to determine the replacement rate. We also encourage the Port to consider the costs involved with an accelerated turnover rate, in addition to assuming equipment will only be replaced at the end of its useful life.

BAAQMD-35

BAAQMD-36

BAAQMD-37

In summary, most of the thirty-two actions listed in the Revised Draft Plan have the Port tracking or studying actions undertaken by Port tenants and the Ports of Los Angeles and Long Beach; observing the retrofit of a small number of existing equipment; supporting the purchase of 21 electric trucks and augmenting the Port's fleet with an electric vehicle. These are all good

BAAQMD-38

beginnings. We recognize the path to zero-emissions at the Port will not be easy and will take time. But restricting the initial efforts to already funded equipment replacements and some studies, while pragmatic, is too small a beginning.

BAAQMD-38

Now is the time to be ambitious and bold. I would like to again express my confidence that, working in concert with the local community and your workers, tenants and customers, the Port of Oakland can reach zero emissions operations.

BAAQMD-39

Sincerely,

Jack P. Broadbent
Executive Officer/APCO

cc: BAAQMD Director Nate Miley
BAAQMD Director Scott Haggerty
BAAQMD Director John J. Bauters
BAAQMD Director Pauline Russo Cutter
Mr. Cestra Butner, President, Port of Oakland Board of Commissioners
Mr. Andy Garcia, GSC Logistics, Inc.
Ms. Margaret Gordon, WOEIP
Mr. Brian Beveridge, WOEIP
Ms. Cynthia Marvin, California Air Resources Board

EARTHJUSTICE
BECAUSE THE EARTH NEEDS A GOOD LAWYER

January 24, 2019

VIA ELECTRONIC MAIL to kchuop@portoakland.com

Ms. Khamly Chuop
Port Associate Environmental Planner/Scientist
c/o Division of Environmental Programs and Planning
Port of Oakland
530 Water Street
Oakland, California 94607

Re: Comments on Revised Draft Seaport Air Quality 2020 and Beyond Plan

Dear Ms. Chuop:

On behalf of the West Oakland Environmental Indicators Project, we appreciate the ability to offer these additional comments on the Port of Oakland's Revised Draft Seaport Air Quality 2020 and Beyond Plan ("the Plan"). While we acknowledge and appreciate the added commitments in the revised Plan, we continue to urge the Port to set stronger, concrete goals that will drive the transformation required to achieve the Port's vision of becoming a zero-emissions Seaport. The Plan continues to undermine that vision by failing to include reasonable sector-specific commitments that will send clear signals for investment by industry and tenants. The Plan supports this refusal by hiding behind artificial barriers that are within the Port's ability to address and using flawed assumptions regarding cost and feasibility. As a result, we recommend the following changes. EJ/WOEIP-24 EJ/WOEIP-25 EJ/WOEIP-26 EJ/WOEIP-27

I. The Plan Must Strengthen its New Commitments to Deploy Zero-Emissions Equipment and Infrastructure. EJ/WOEIP-28

While we welcome the new "intermediate-term equipment goals" added to the near-term action plan, we urge the Port to strengthen these goals and commit to the transformation that is being pursued at the San Pedro Bay Ports, and that has been deemed feasible by State and local agencies considering regulations of port trucks and cargo handling equipment. The failure to adopt such commitments will undermine planning and investment that is not only critical to finally addressing the health impacts on surrounding communities, but also to keeping the Port competitive in a changing regulatory environment. Setting strong goals is also important because (1) they help accelerate cost declines by sending clear market signals to both the purchasers and manufacturers, and (2) they ensure investment in equipment and supporting infrastructure that takes advantage of subsidies, plans for rational transition, and avoids stranded investments in next-best alternatives. In other words, being clear and setting strong commitments is critical to supporting the feasibility of the transition envisioned. The Plan's failure to adopt these commitments will undermine its success. EJ/WOEIP-29 EJ/WOEIP-30 EJ/WOEIP-31

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1. The Plan should commit to replace all cargo handling equipment with zero-emissions equipment by 2030.

EJ/WOEIP-32

The Plan adds a new near-term implementing action of deploying 44 pieces of zero-emissions cargo handling equipment by 2025. The Plan should clarify whether this commitment is in addition to the existing commitments (i.e., to deploy 13 hybrid RTGs at the Oakland International Container Terminal, the top pick at Matson Terminal, and the five zero-emissions yard tractors). Commenters assume the commitment is in addition to these pre-existing commitments, but in any event believe a stronger commitment is reasonable both for 2025 and 2030.

EJ/WOEIP-33

The cost analysis provided in Appendix F uses several flawed or outdated assumptions that the updated Plan must correct. First, the Plan assumes yard tractors currently cost $300,000. That price should be $250,000. Second, the Plan assumes a 200kWhr battery pack, when the standard is 250kWhr, and is likely to increase over time. Third, the analysis fails to include the low-carbon fuel standard ("LCFS") credits that could more than offset fuel costs for electric cargo handling equipment. Finally, the analysis artificially assumes that upfront capital costs must be recouped within one year. There is no basis for this assumption. Total costs of ownership will be lower for electrical yard tractors over their eight-year lifetime, and any need to see those returns sooner is a financing issue that, as discussed below, is within the Port's ability to influence.

EJ/WOEIP-34

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EJ/WOEIP-36

By correcting these assumptions, we expect the analysis would show that a much more rapid adoption of zero-emissions yard trucks is not only be feasible but desirable. With these changes, we believe the Port could comfortably commit to a target of 33% of yard trucks being zero-emissions by 2025 and 100% by 2030.

EJ/WOEIP-37

EJ/WOEIP-38

The remaining equipment can also be replaced with zero-emissions alternatives in the 2030 timeframe. Over half of the Port's RTGs are already slated for replacement by hybrids. It is reasonable to expect that the remainder could be similarly replaced before 2030. That leaves top picks, which the report acknowledges will be commercially available from Kalmar and others around 2021. Again, with declining battery costs, declining manufacturer costs with increasing scale, Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project ("HVIP") incentives, and LCFS credits that likely more than offset fuel costs, the Port should have high confidence in setting a 100% zero-emissions 2030 target.

EJ/WOEIP-39

EJ/WOEIP-40

2. The Plan should commit to zero-emissions drayage trucks by 2035.

EJ/WOEIP-41

The new commitment to deploy 21 zero-emissions drayage trucks by 2027 is not a serious commitment. Again, the Plan should clarify that this commitment is in addition to the zero-emissions drayage trucks that are already included in prior commitments. Even assuming this is an additional commitment, the Port's commitment amounts to converting less than half of 1 percent of the current drayage truck fleet serving the Port. Meanwhile, the San Pedro Bay Ports are pursuing a goal of converting all of their 17,500 drayage trucks, including trucks that deliver over the Grapevine, to zero-emissions by 2035.

EJ/WOEIP-42

The Plan declines to provide a detailed analysis of the feasibility of requiring drayage trucks servicing the Port to be zero-emissions. The Plan should be updated to include such an analysis.

EJ/WOEIP-43

The Port should consider the draft feasibility assessment being prepared for the San Pedro Bay Ports. That analysis, while still overly conservative in many respects, notes that in addition to BYD, Daimler and Volvo have announced plans to commercialize zero-emissions Class 8 trucks in the 2021 timeframe, with Navistar making similar commitments for 2025.[1] EJ/WOEIP-44

The revised analysis should identify the range requirements for trucks serving the Port, including the number of "short-haul" and "long-haul" trucks, and their operational requirements. EJ/WOEIP-45 The draft feasibility assessment for the San Pedro Bay Ports found that while current range capabilities for battery-electric drayage trucks were not sufficient to meet maximum range requirements, the range capabilities "are sufficient to meet the average shift and daily range of drayage trucks" and the battery-electric truck platform "could meet the range requirements for some meaningful fraction of drayage operations."[2] EJ/WOEIP-46 The North American Council for Freight Efficiency predicts that battery-electric trucks will achieve maximum daily range (and maximum freight weight) parity in the 2030 timeframe, meaning that a 2035 target for all electric drayage trucks should be feasible from an operations perspective.[3] EJ/WOEIP-47

The California Air Resources Board ("CARB") and others have looked at the total cost of ownership and found that battery-electric drayage trucks, when HVIP incentives and LCFS credits are considered, are already cheaper than diesel drayage trucks. EJ/WOEIP-48 With HVIP incentives for trucks used in disadvantaged communities ($150,000 + $15,000), a new $250,000 electric short-haul drayage truck will cost roughly $85,000 (excluding taxes and tariffs). EJ/WOEIP-49 With LCFS credits, operators could save another $50,000 per year in fuel costs. EJ/WOEIP-50 In other words, even if operators are buying used diesel trucks, an electric drayage truck could pay for itself in the very short-term, and the turnover of existing equipment could be even faster than assumed in the draft analysis. EJ/WOEIP-51 As additional manufacturers enter the market and battery costs continue to decline, zero-emissions drayage trucks will become even more competitive. Such benefits, combined with the forced turnover of older diesel trucks currently required under SB1 beginning in 2020, mean that ports will have a critical window to support the transition to zero-emissions trucks serving their facilities. EJ/WOEIP-52 The Plan must be revised to take advantage of these opportunities in order to achieve its long-term vision.

3. The Port must deploy electrical infrastructure to support the transition to zero-emissions. EJ/WOEIP-53

Consistent with the above changes, the commitment to build out the infrastructure to support electrification (Plan at p. 28) must be expanded. EJ/WOEIP-54 We urge the Port to begin widespread deployment of charging infrastructure now, which may include upgrades to substations and other make-ready improvements. EJ/WOEIP-55 Such planning and investment should be proactive rather than reactive. EJ/WOEIP-56 Building out this infrastructure will address barriers to adoption of zero-emissions equipment and enable accelerated adoption. It will also avoid investments in technologies that are certain to be stranded in the near-term as zero-emissions technologies improve and regulatory requirements are EJ/WOEIP-57

[1] Tetra Tech/GNA, *Draft 2018 Feasibility Assessment for Drayage Trucks* (Dec. 2018), p. 8.
[2] *Id.* at p. 61.
[3] *Id.* at p. 44 (citing North American Council for Freight Efficiency, *Guidance Report: Electric Trucks – Where They Make Sense* (May 2018)).

tightened. Finally, early build-out will allow the Port to take advantage of various incentives that are available now, but will likely decline as regulations are adopted and funds are used.

EJ/WOEIP-57
EJ/WOEIP-58

4. The Port must take steps to address pollution from nearby off-port railyards.

EJ/WOEIP-59

The Plan should also include new commitments to address pollution from nearby railyards. We recognize that the Port has no direct control over these railyards, but the Port can work with railyard operators to create incentives to use available cleaner equipment. Cleaner locomotive technologies are available, in particular for equipment that remains at the railyard. The Port should coordinate with neighboring railyards to use these new technologies on their properties.

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II. The Plan Must Address the Barriers that are Within the Port's Control.

The Plan repeatedly identifies barriers to rapid deployment of zero-emissions solutions that are within the Port's ability to address. Instead of committing to action to address the barrier, however, the Plan hides behind those barriers as an excuse for not committing to more ambitious action. The Plan should be revised to include actions to address the following barriers:

EJ/WOEIP-64

1. Financing

EJ/WOEIP-65

The Plan fails to address comments pointing to the availability of various financing opportunities, including lease agreements, gate fees, and establishing revolving loan-funds. The Response to Comments notes the importance of incentive funds and states that the Port does not serve as a lending institution, but the Response does not explain why a revolving loan fund is not feasible. Gate fees, for example, can be used to create incentives for adopting zero-emissions alternatives while also creating funds that can be used for revolving loans or for other Port investments. Lease agreements requiring, or rewarding, tenant improvements will provide long-term benefits to both the Port and the shipping companies themselves, many of whom have corporate commitments to greenhouse gas reductions. The Port should include operators in the lease negotiation process at an early stage to incentivize investment in zero-emissions technologies.

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EJ/WOEIP-69

The Plan also fails to note that private financing options are available (e.g., Generate Capital's partnership with BYD), which, when combined with the fact that total cost of ownership is likely lower for many types of zero-emissions trucks and alternatives, should make adoption of these alternatives financially desirable. A thorough analysis of these financing options should be conducted. The Port of Long Beach is hosting a workshop on private financing options. The Port of Oakland should do the same. More fundamentally, the Plan should identify the investment needs over time for achieving its vision for becoming a zero-emissions Seaport and propose a plan for financing those needs. Instead, the Plan raises the uncertainty of financing to justify avoiding strong commitments – that approach will virtually ensure failure.

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EJ/WOEIP-72
EJ/WOEIP-73

2. Space for charging and servicing

EJ/WOEIP-74

The Plan notes that marine terminal operators will not be able to accommodate external drayage truck charging due to a combination of space constraints and labor rules. (Plan at p. F-24.) The Plan, however, includes no discussion of how the Port, working with the City of Oakland, might

EJ/WOEIP-75

promote off-terminal charging and servicing locations within the Port's land, as part of the ongoing Truck Management Plan effort or within the Oakland Army Base development process. EJ/WOEIP-75

The Plan notes that the Port will be responsible for providing power to trucks domiciled at the Port-provided parking areas (Plan at p. F-24), but does not explain why similar charging infrastructure could not be used by other drayage trucks serving the Port. EJ/WOEIP-76 The Plan must identify the space needs for meeting its goals, and identify the options available to the Port to satisfy those needs. EJ/WOEIP-77 Instead, the Plan implies that space for charging and servicing is a barrier that the Port cannot address, when the truth is that the Port is simply choosing not to address the issue in the Plan. EJ/WOEIP-78

3. Operator "concerns" and acceptability EJ/WOEIP-79

The Plan uses operation and overall "acceptability" as criteria for assessing the feasibility of proposed actions (Plan at p. 15), and raises vague "concerns" around the use of certain electric equipment (Plan at p. F-10) to support slow transition to zero-emissions alternatives. EJ/WOEIP-80 These subjective barriers are entirely within the Port's ability to influence, and should not be used to reject actions. Instead, to the extent staff believe there are acceptability barriers, they should outline a plan to address these concerns. EJ/WOEIP-81 Pilot demonstrations will assist in this effort, but more could be included in the Plan. For example, the Port could organize technology fairs and opportunities for vendors to demonstrate their technologies and answer questions, financing workshops as noted above, and briefings from other operators that have adopted zero-emissions technologies. EJ/WOEIP-82 The Port should also acknowledge that it is not solely up to operators to choose what can and cannot be used within the Port. In the same way that operators might not have "chosen" to upgrade to cleaner diesel trucks or to plug-in ships while at berth, acceptability and choice cannot be litmus tests for moving forward.

4. Labor restrictions EJ/WOEIP-83

Commenters acknowledge the real logistical issues that must be addressed and that labor agreements are not controlled by the Port. Nonetheless, the Port can outline the labor issues that need to be addressed to facilitate the transition to becoming a zero-emissions Seaport and ensure that those issues are included in future agreements. The San Pedro Bay Ports are pursuing a similar transition, so it is important that future agreements work for the Port of Oakland as well. The failure to participate in this dialogue, again, will ensure the failure to address these barriers.

5. Port staffing EJ/WOEIP-84

The Plan includes vague references to staffing limitations to pursue aggressive actions and support the transition to zero-emissions alternatives. We know that much of the funding provided to the Port to address environmental issues includes overhead for staffing. EJ/WOEIP-85 The Plan should describe what staffing support is required to achieve the transition to a zero-emissions Seaport, identify the resources currently available, and identify any shortfall. EJ/WOEIP-86 Once that shortfall is identified, the Plan should identify options for the Board of Port Commissioners to consider that address that shortfall. We believe the Port should hire dedicated staff who will work on achieving a zero-emissions Seaport. These staff can develop the required expertise, develop the required contacts with EJ/WOEIP-87

agencies, operators and vendors, and trouble-shoot issues that arise in achieving the commitments in the Plan. Again, the Plan should not hide behind problems, but propose solutions to fix them. EJ/WOEIP-87

III. The Workforce Development Plan Must Clearly Identify How it will Prioritize West Oakland Residents for Port Jobs, Training, Education, and Certification.

Most West Oakland households fall below the federally defined poverty level, with incomes significantly lower than the City of Oakland as a whole. And despite being the community immediately surrounding the Port and its continuously expanding freight activities, West Oakland's reported unemployment rate is nearly 30 percent, which is still likely underestimated. The Port is the logical source for long-term, permanent jobs for West Oakland residents, therefore the Workforce Development Plan must more clearly identify and commit to a pipeline of jobs, training, education, and certification that prioritizes community members. EJ/WOEIP-88

Indeed, the Plan remains noticeably devoid of these specific actions or commitments, despite our similar comments on the earlier draft. EJ/WOEIP-89 Instead, the Plan focuses at length on a workforce gap analysis that continues to keep the Port at the level of studying, evaluating, investigating, tracking, meeting, participating, coordinating, and monitoring. Other than repeated and vague references to "local" training and education programs that will "strengthen partnerships" and serve "local" residents, it is unclear exactly how the workforce gap analysis and later workforce transition plan will prioritize West Oakland residents in particular. EJ/WOEIP-90 The Plan must move beyond simply "strengthening partnerships" and position the Port as the conduit between industry leaders, training partners, and education providers, with a clear path from each to permanent jobs for community members. EJ/WOEIP-91

In keeping with this elevated role and responsibility for the Port, the Plan should identify any possible incentive funds that the Port itself can provide to support West Oakland residents pursuing Port jobs. The Plan mentions collaborating with other ports to secure grants as well as the California Employment Training Panel funding program, yet never commits actual Port dollars toward training and education. EJ/WOEIP-92 Similarly, the Plan spends a disproportionate amount of time discussing the broad parameters of its workforce gap analysis, while relying on outside partners and "stakeholders" for an indeterminate process of studying and monitoring that omits key details. EJ/WOEIP-93 How long will it take to complete the workforce gap analysis? EJ/WOEIP-94 When will the workforce transition plan be implemented? EJ/WOEIP-95 Who are the "industry stakeholders and partners" whose workforces will be analyzed as part of this process? EJ/WOEIP-96 Why are training resources directed toward near-zero emissions equipment, if investment in near-zero technology detracts from the Plan's vision of a zero-emissions Seaport? EJ/WOEIP-97 Without more specific targets or goals, it is unclear when or how community members will be prioritized for long-term Port jobs. EJ/WOEIP-98

IV. The Public Engagement Plan Must Use a Multi-Stakeholder, Solutions-Oriented Process.

Although the Plan lists potential future meetings as well as strategies and best practices for increasing public participation, it omits more key details with no explanation. EJ/WOEIP-99 Town halls and workshops can be effective tools for conveying information, but that is not the same as meaningful engagement with the community. EJ/WOEIP-100 The Port continues to use this model, however, focusing on the EJ/WOEIP-101

top-down distribution of information—controlled by the Port—at the expense of truly engaging with the public to solve problems collaboratively. And while this may serve to shield the Port from any criticism, it betrays the overall lack of a problem-solving mentality that can move the Port away from rote updates on the Plan's progress and toward an in-depth, multi-stakeholder solutions-oriented process. EJ/WOEIP-101

An example of where such a solutions-oriented process would be valuable is the current limitation on using electric yard hostlers on local public streets. The Port should work together with the City, industry, regulatory agencies, and the community to change local ordinances and determine how electric hostlers can travel to off-site yards near the Port. EJ/WOEIP-102 Not only will such a solution reduce emissions, increase the returns on these vehicles due to greater use, and increase efficiency EJ/WOEIP-103 because the trucks will no longer need to be changed off-site, it will also reduce costs. These win-win solutions are possible if the Port brings all the stakeholders together, asks questions, and approaches these challenges with a problem-solving mentality, as opposed to simply conveying information. EJ/WOEIP-104

We are pleased with the Plan's vision for a zero-emissions Seaport, and wholeheartedly agree with EJ/WOEIP-105 that vision. To achieve this vision, however, the Port must identify barriers, create a plan to overcome those barriers, set strong milestones, and employ a problem-solving mentality that meaningfully engages with the community and stakeholders by looking for solutions, rather than communicating excuses. EJ/WOEIP-106

Sincerely,

Paul Cort, pcort@earthjustice.org
Michelle Ghafar, mghafar@earthjustice.org
Earthjustice
On behalf of West Oakland Environmental Indicators Project (WOEIP)

PMSA
PACIFIC MERCHANT SHIPPING ASSOCIATION

January 24, 2019

Ms. Khamly Chuop, Port Associate Environmental Planner/Scientist
Port of Oakland
530 Water Street
Oakland, CA 94607

RE: Revised Draft Seaport Air Quality – 2020 and Beyond Plan
PMSA Public Comment

[Transmitted via e-mail]

Ms. Chuop:

Thank you for the opportunity to provide comment on the Port of Oakland Revised Seaport Air Quality – 2020 and Beyond Plan (Plan). We are providing these comments on behalf of the members of the Pacific Merchant Shipping Association (PMSA). Our members lease and operate marine terminals at the port, as well as own and operate ocean going vessels calling at the port.

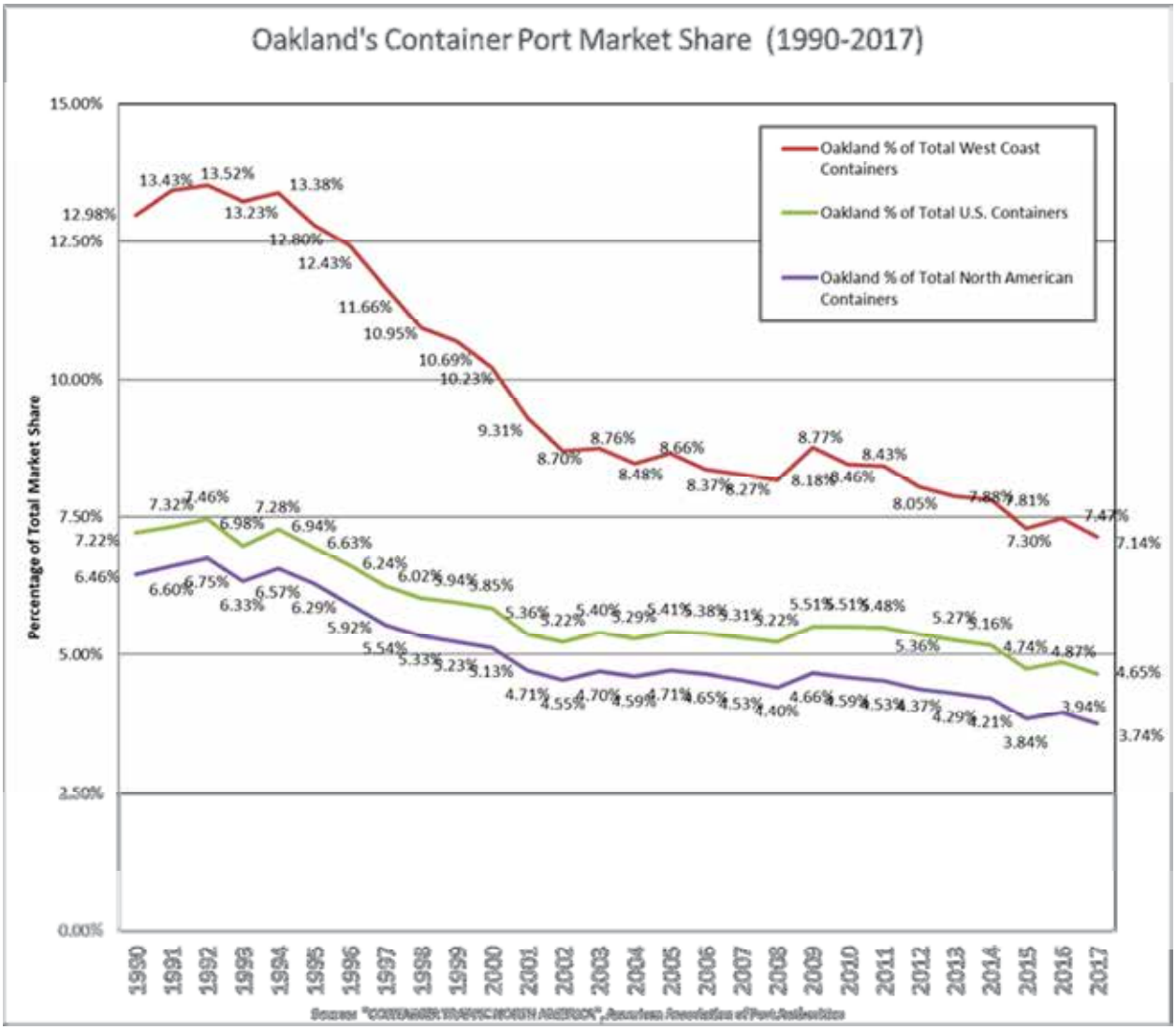
We have reviewed the revisions provided to the Plan and have a few general and specific comments to offer. We believe this revised Plan provides a reasonable framework for all stakeholders to work together to achieve the Port's goals of a vibrant, sustainable and competitive port with a workable pathway to reduced toxic air contaminants and a future goal of zero emissions. PMSA-26

Port Growth and Competitive Position

The goals laid out in the Plan are ambitious and aspirational. The maritime industry supports the transition to zero-emissions (ZE) operations provided that this transition is structured in such a way as to "keep the Port competitive, financially sustainable, and a catalyst for jobs and economic development." This important goal exists alongside the equally important goals of minimizing emissions, building partnerships and providing meaningful stakeholder engagement. Those goals can only all occur if we can remain competitive, grow our business and generate the revenue and jobs necessary to achieve them. PMSA-27

The Port of Oakland is a large port, but it suffers from a loss of market share when compared to all relevant ports serving California and the greater United States (see chart below). The benefit of a growing national economy over the last 8 years has provided a buffer to this loss of market share through growth in total US cargo volumes, but the overall growth volumes mask cracks in the traditional strengths of west coast ports. We are hopeful that the Port can reverse this trend, and the Port's recent investments and commitment to maritime trade offer promise. Such growth will be essential for the tenants of the Port of Oakland to remain competitive and able to make the investments in cleaner equipment economically feasible. PMSA-28 PMSA-29

PMSA
PACIFIC MERCHANT SHIPPING ASSOCIATION



The Plan assumes continued cargo volume growth of 2% per year (Appendix A-3). We are optimistic for the future of the Port and are hopeful that this projection will be achieved and possibly surpassed. The inclusion in the Plan for mechanisms to address this dynamic though the Feasibility Criteria for Implementing Actions, coupled with 5-year reviews should allow for corrections as needed through continued assessment of strategies for attaining the goals of the Plan.

PMSA-30

Near Term Action Plan

The identification and detail provided for the Near-Term Action Plan for 2019-2023 provides a roadmap for emission reduction projects that are either underway or in the planning or scoping stages. It is of benefit to both the community and the tenants to have such a roadmap laid out for the near-term to provide for anticipated emission reductions and potential cost impacts respectively; at least to the extent that the dynamics at the port and the state of technology and funding allows.

PMSA-31

PMSA
PACIFIC MERCHANT SHIPPING ASSOCIATION

Equipment Operations and Cost Assessment

We appreciate the inclusion of the promised economic analysis of the emission reduction strategies identified in the Plan, as outlined in Appendix F. We note that the full extent of the goals of ZE at the port has not been included in the analysis due to the lack of mature technologies and consequent lack of accurate cost estimates. The analysis provides estimates for more mature technologies such as ZE and NZE on-road trucks and some cargo handling equipment (CHE); though most ZE or NZE CHE are either in the very early stages of development or still several years away from commercial availability. This is especially true for operations at the Port of Oakland that may not lend themselves to full automation.

PMSA-32

PMSA-33

The lack of data to analyze and estimate costs beyond what is included in Appendix F is understandable and we appreciate the hesitancy to predict costs and feasibility beyond information at hand, however as a reference point a study by Moffett & Nichols in 2015 estimated capital expenditure and O&M costs for ZE operations under Oakland's in the billions of dollars. We would encourage the Port to review this document for guidance.

PMSA-34

PMSA's members are committed to helping make the goals of the Plan a success, and are looking forward to working with port staff and other stakeholders to enable the visions of the Plan. The staff at PMSA is happy to answer any questions or concerns that the port may have and are always available to engage on these important issues.

PMSA-35

Sincerely,

John Berge

John Berge
Vice President

From: DockTime - Chris [mailto:chris@docktime.net]
Sent: Sunday, January 27, 2019 10:37 AM
To: Khamly Chuop <kchuop@portoakland.com>
Subject: Re: [EXTERNAL] Re: TFCA Grant Award, congratulations

Khamly,

Sorry for the delay in responding. I have been going back and forth with BAAQMD on my requirements.

Thus far, they are receptive and understanding that my trucks cannot be scrapped due to their dual usage. They also understand that we are working hard to get the City to review their ordinances to allow EV's onto Maritime and 7th.

I hope you will work with us to lobby all who will listen that a dedicated EV lane into the terminals will speed adoption of EV's more so than the HOV lane on the Bay Bridge.

DockTime-2

They also allowed a little more flexibility in my hourly usage over five years vs. holding me to an annual usage requirement.

I went ahead and initialled all documentation and am awaiting their notice to proceed.

Will keep you advised.

Best regards,

Chris

GOLDMAN SCHOOL OF PUBLIC POLICY
UNIVERSITY OF CALIFORNIA BERKELEY

Center for Environmental Public Policy

David Wooley • Executive Director • 415-271-1135 • dwooley@berkeley.edu

Comments on
Revised Draft Seaport Air Quality 2020 & Beyond Plan

January 31, 2019

Submitted to

Ms. Khamly Chuop,
Port Associate Environmental Planner/Scientist
Port of Oakland
530 Water Street
Oakland, CA 94607
kchuop@portoakland.com

Introduction and Summary

The Center for Environmental Public Policy (CEPP) thanks the Port of Oakland Board and Staff for the opportunity to comment on the Revised Draft *Seaport Air Quality Plan* (December 14, 2019). CEPP previously submitted comments on the draft released in Summer 2018[1] and attended and participated in the Taskforce meeting held at the Port on January 10, 2019. CEPP has also participated actively in the West Oakland AB617 implementation process, organized by BAAQMD and West Oakland Environmental Indicators Project (WOIEP).

We open with a note of appreciation for the decision by Port management and staff to produce a Revised Draft, respond to comments on the initial draft and to allow an additional comment period on the Revised Draft. We are strongly supportive of the decision to make air quality improvement a strategic and organizational priority for the Port of Oakland (Port). We support the Port's vision of creating a pathway to zero-emissions for Seaport operations through changes in equipment, operations, fuels, and infrastructure. We support the Port's commitment to undertake regular updates to the plan, and research into the rapidly changing technology and markets for zero emission infrastructure and fleets. These commitments are important to the broader objective of achieving greater equity, and environmental fairness for

GSPP-59

[1] https://gspp.berkeley.edu/centers/cepp/news-and-publications/publications

the people of West Oakland. These commitments are also important to efforts to reduce greenhouse gas emissions that have global equity and existential implications for human populations and economic balance. GSPP-59

The Revised Draft Air Quality Plan comes at a time of rapid changes in transportation, battery-storage and air pollution control technology. In general, we remain supportive of the Plan's aspiration to achieve zero-emissions from operations at the Port. The Revised Plan contains several improvements over the Initial Draft, and we applaud the Port Staff's effort to thoughtfully respond to the first round of comments. We also believe several additional changes would strengthen the Plan and help ensure the Port of Oakland is recognized as a leader in efforts to decarbonize port operations and reduce exposure to diesel particulate matter in nearby residential communities. GSPP-60

The following is a summary of our recommendations, which are addressed in more detail in the discussion that follows this Introduction and Summary.

- **Track Cost/Availability of Electric Drives:** Establish a system by which to collect current information on cost and availability of electric trucks and charging equipment. GSPP-61
- **Find and Fix High Polluting Trucks**: Establish a work group to plan, construct and operate a system to identify highly emitting diesel trucks entering the Port, and to require repair as a condition of Port Access. GSPP-62
- **Trucking Duty Cycle Data Collection**: Establish a research effort to collect information on duty cycle of diesel trucks and cargo handling equipment serving the Port. GSPP-63
- **Electric Supply/Charging Infrastructure Work Group**: Establish a work group of interested stakeholders to regularly meet to discuss and plan electric supply and battery charging infrastructure at or near the Port and to maximize access to state funding for electrification. GSPP-64
- **Distributed Clean Energy Potential Study**: Prepare a renewable energy potential study for land, buildings and equipment at the Port. GSPP-65
- **Differential Ship Berthing and Truck Access Rates**: Establish ship berthing and truck access fees that reward: 1) ships with lower in-transit or at berth emissions; and, 2) zero emission trucks. GSPP-66
- **Vehicle Electrification Goals:** Set more specific goals and target dates by which certain segments of diesel equipment operating within the Port will transition to electrification. At a minimum this should include several hundred yard-trucks, and perhaps a thousand drayage trucks with short-haul duty cycles. GSPP-67
- **Port Emission Inventory**: Revise the Port's emission inventory to include a more complete estimate of emissions from trucks serving the port. GSPP-68

The following discusses these recommendations in greater detail.

Track Cost/Availability of Electric Drives

Costs of electric drive, battery and charging technology are declining very rapidly. Availability of electric powered trucking and cargo handling equipment is expected to expand quickly in 2019- GSPP-69

2021. Sound decisions by the Port, its tenants and supporting service industries, about infrastructure and fleets investment require up-to-date information on equipment price and availability with which to compare to conventional, fossil-fuel powered trucking options. Our general sense is that the Port's assessment of cost and availability of electric-drive and charging technology is somewhat conservative and understates the opportunities that will be presented in the market in the near-term. GSPP-69 GSPP-70

For example, the Revised draft states,

> '…if HVIP funding continues to be available under the current terms, battery-electric yard tractors could reach cost parity with diesel-fueled equipment by 2027; if no incentive funding is available, cost parity may not be achieved until 2038 or later." GSPP-71

Other sources suggest parity could occur sooner than 2027, and that in the interim, state financial incentives will create an artificial parity and opportunities to integrate substantial numbers of yard trucks and other diesel equipment into Port, tenant and service industry operations. We acknowledge that reasonable minds may differ on how quickly electric drives will be available in such quality, quantity and price to cost effectively replace other diesel equipment. But trends in battery technology costs suggest that electric drive technology may become competitive with new diesel equipment relatively soon for certain types of equipment, especially if oil prices rise again. The Port, its tenants, and its service industries need access to current and reasonably accurate data on cost and availability. The Port could contract for regular delivery and dissemination of such data, or could generate information from periodic, aggregated, requests for proposals (RFPs) developed collaboratively with other entities operating at the Port. We also encourage the Port to collaborate with other West Coast ports on RFPs, and develop a group buying system to help lower upfront costs of zero-emission equipment. GSPP-72 GSPP-73 GSPP-74

Find and Fix High Polluting Trucks[2] GSPP-75

Recent studies by UC Berkeley researchers show that a significant percentage of trucks entering the Port have faulty air pollution control systems. A system to "find and fix" these vehicles, coupled with information on state financial assistance for vehicle upgrades and repairs could produce short-term air quality benefits to people of West Oakland. We propose that the Port help assemble and participate in a Work Group to establish such a system, using the Port's authority to control access to Port facilities as a means to enforce correction of emission controls. In appendix A to these comments we set forth a set of objectives for a Work-Group and a set of questions to be addressed. GSPP-76 GSPP-77 GSPP-78

[2] We included a broad initial comment on the creation of a Find and Fix plan in our September comments (pg 9), but have added greater detail on the program implementation in Appendix A. We recognize that the Port does not directly regulate trucks, but we believe that the Port would be within its rights to refuse access to vehicles that are likely in violation of air quality standards. The Center would welcome the opportunity to help convene and manage a work group this subject and to coordinate with BAAQMD and CARB on related monitoring studies. (GSPP-75)

Trucking Duty-Cycle Data
The Port's commitment to zero emission operations would be aided by collection of data on Trucking Duty-Cycles. Currently there does not appear to be an inventory of the full range of diesel equipment operating within, and around the Port. Such data is needed to help target financial incentives, forecast need for supporting infrastructure and identify those segments of the transport sector that are most ripe for electric drive technology. This data is potentially available from Port Tenants, trucking companies serving Port functions or from private services. The Port, perhaps in cooperation with state agencies or University of California Centers, could collect the data in a form that protects confidentiality, but helps identify trucks that: 1) are approaching retirement; 2) have predictable duty cycles that could be served by electric drives. Our guess is that this data could identify dozens or even hundreds of trucks per year that would be amenable, practically and economically, to electrification. This information will likely be critical as new electric truck models become more available and allow the Port to prepare charging infrastructure and procedures.[3]

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GSPP-80
GSPP-81
GSPP-82
GSPP-83

Electric Supply/Charging Infrastructure Work Group
The Revised Plan includes several improvements concerning electrification infrastructure, but we believe the process needs to accelerate into order to take full advantage of state funding. A formal work group dedicated to learning, planning and outreach on this subject would help ensure a transparent, inclusive and effective response to rapid changes in technology, funding, and markets.

GSPP-84
GSPP-85

Distributed Clean Energy Potential Study
Even from a BART train is it apparent that there is a large amount of roof space at the Port that could potentially host solar generation. Similarly, there are likely to be many locations where demand response, targeted energy efficiency retrofits, and batteries would help lower costs of electric supply infrastructure needed for vehicle electrification and help avoid energy demand peaks due to growing vehicle energy charging demand. Wind turbines take up very little surface area and can operate above other port operations (just as they do above agricultural activity in other locations). In anticipation of demand from charging infrastructure, a study of distributed clean energy potential at the Port is necessary to ensure that the Port is able meet increased demand in a sustainable, and economic fashion.

GSPP-86
GSPP-87

Differential Ship Berthing and Truck Access Rates[4]

GSPP-88

[3] This could include planning for locations where trucks could charge, how charging fees would be assessed, and forecasted energy demand.

(GSPP-83)

[4] This comment is repeated from CEPP's September 25, 2018 comment letter (See page 4). The Response to Comments addressed our original comment, we still believe that offering differential rates is a feasible and appropriate measure to phase in over time. Other California Ports, such as Los Angeles and Long Beach have developed a plan to charge differential access rates. At a minimum we request that the Port to commit to evaluating the feasibility of an entrance fee structure to be instituted by 2026 (three years after the entry fees for non-near zero trucks will become effective in Los Angeles).

(GSPP-88)

The Port needs a source of revenue to support infrastructure and other expenses of the transition to zero emission operations. It also needs to establish incentives to encourage ship and truck owners to shift equipment to zero carbon technology. The Port should commit to study and establish a set of access charges or preferential access rules that will gradually create revenues and incentives for investment in low carbon vessels and vehicles. GSPP-89 GSPP-90 GSPP-91

Vehicle Electrification Goals

As was stated in our earlier comments, the Port should establish more precise goals for electrification of yard trucks and other equipment that are amenable to electrification in the near to mid-term. GSPP-92

We recognize the Port's concern regarding the upfront cost of electric equipment, but continue to believe that the reduced operational costs, health benefits, and the availability of incentives will make it economical for the Port to move to electric equipment in the near term. We acknowledge that it is difficult to forecast technology and pricing, but we encourage the Port to set more ambitious measurable targets for electrification. Specifically, we reiterate the goals we stated in our September 2018 Comments: GSPP-93 GSPP-94

- Establish a plan to gradually move yard hostler equipment from diesel to electric drive technology, with a goal to replace half of the yard hostler fleet with electric drives by 2025 and complete replacement by 2030. GSPP-95
- Modify port electric supply infrastructure to accommodate a complete yard hostler transition to electric drives by 2030. GSPP-96
- Achieve a gradual/sustained increase in power supply and charging equipment for drayage trucks that bring containers to and from the Port. GSPP-97

Port Emission Inventory[5] GSPP-98

The Port's December 2018 Response to Comments explains that the emission domains in the Emission inventory (EI) were developed in consultation with BAAQMD and CARB and that to expand the domains to include "first point of rest" would "not increase the possibility for meaningful comparison to other ports" (RTC page 14). It further states that the primary function of the EI is to monitor the Port's progress toward the original MAQIP goal for reduction of diesel particulate matter emissions associated with Seaport operations relative to the 2005 baseline (RTC page 14). This does not address the underlying concern that we and other commenters raised—that it is appropriate for the Port to consider emissions from trucks whose primary operation in the region is to conduct Port related business as part of the "Seaport operations." We believe this would be appropriate because the Port has a unique ability to GSPP-99 GSPP-100

[5] We first raised this concern in our September comment letter (page 4) and are repeating it because we do not believe that it was adequately addressed. In addition to the equipment located directly on Port property, trucks conducting business at the Port are a major source of air pollution and greenhouse gas emissions, both on Port Property and within the surrounding areas. Including these sources in the emission inventory will provide greater clarity to the pollution burden faced by the surrounding communities and illuminate additional strategies to reduce the Port's environmental impact. (GSPP-98)

influence the behavior of truck operators. Examples of this can be seen through our suggestions for the "Find and Fix High Polluting Trucks" and "Differential Ship Berthing and Truck Access Rates." Not including these vehicles in the EI and not including them in any metrics may reduce resolve for the Port to take steps to reduce vehicle emissions and reduce the health burden faced by surrounding communities. Programs such as the "Find and Fix" could also reasonably implemented in the short-term as part of an AB 617 measure, at a relatively low cost to the Port. We believe that such programs are innovative, and that the Port should be able to receive credit for their implementation. And one of the best ways to do that is to measure the emission reduction associated with their implementation and give the Port credit for their role in creating such a reduction.

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GSPP-104

We reiterate that this can be done without disrupting the existing inventory methodology. The Port can add a component to the inventory methodology, in a way that preserves an apples-to-apples comparison between past and future inventories, and with the inventories of other ports. Other ports have adopted this approach.[6]

GSPP-105

Electricity
CEPP supports statements in the revised draft plant that establish a presumption that electricity will be predominant source of energy that will replace diesel engines. CEPP supports the following statement in Strategy 3:

Develop Required Infrastructure to Support Pathway to Zero Emissions. Strategy #3 focuses on the infrastructure required to transition to zero-emissions operations, with the presumption that the predominant source of power will be electricity. This will require the Port and its tenants to pay for upgrades to existing systems, increase system resilience (i.e., backup capacity), and build new infrastructure, including information technology systems to improve goods movement efficiency. The Port will plan and coordinate electrical system upgrades in areas served by the Port as a utility. The Port will work jointly with the terminal operators, off-dock tenants, and equipment owners located in these areas. The Port and its tenants will work with Pacific Gas & Electric Company (PG&E) in the PG&E-serviced areas. See Figure 2 for service areas. Strategy #3 provides flexibility for other technology options (such as hydrogen-powered equipment) to provide power for zero-emissions equipment and operations.

GSPP-106

We recognize that some forms of propulsion are not amenable to electrification, including long-haul trucks, transoceanic ships and some harbor-craft. The Port will, sooner or later need to assess how to meet fossil-free fuel requirements for these important elements of shipping. The International Maritime Organization (IMO) has already acted to reduce sulfur content of bunker fuel, a move that is causing changes in fuel markets and ship design. It has also set a greenhouse gas emission reduction target that strongly suggests a move, over the long term,

GSPP-107
GSPP-108

[6] Our understanding is that the Port of Rotterdam has adopted this approach to assess 24.8 million tonnes transportation emissions associated with its operations. See, Wuppertal Institute, *Synthesis Report*, *Deep Decarbonization Pathways for Transport and Logistics Related to the Port of Rotterdam*, April 2018 https://www.portofrotterdam.com/sites/default/files/wuppertal_institut_2018_decarbonization_of_transport_and_logistics_synthesis_report.pdf.

(GSPP-105)

away from fossil fuels for ships. The Oakland Port will eventually face market demand for non-fossil fueling infrastructure for ships and long haul trucks.

GSPP-108

Now is a good time to begin long range planning to assess how to meet renewable hydrogen, or hydrogen/ammonia demand for ship and long haul trucking. Hydrogen ferries are, or will soon be operating in the San Francisco Bay. The long term competitiveness of the Port of Oakland may depend on early planning to assess how to fuel ships with near zero-carbon fuels, and take advantage of local supplies of renewable hydrogen feedstocks (e.g. EBMUD Wastewater facility, food-agriculture-forestry bio-waste diversion).

GSPP-109

GSPP-110

Conclusion

The Seaport Air Quality 2020 & Beyond planning process is an opportunity to strengthen the long-term competitiveness and economic viability of Oakland as a major trade portal.

GSPP-111

The opportunities presented by changes in transport technology, and the emerging crisis over extreme weather events, require strong leadership by the Port and City of Oakland. Action on the recommendations in these comments will help secure long-term fuel cost savings, improve public health, and help stabilize climate. We urge the Board and Staff to take the long view, and in this plan lay a solid foundation for a clean and prosperous Port.

GSPP-112

Respectfully submitted,

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The Center for Environmental Public Policy acknowledges the assistance of Andrea Morgan, Simone Cobb and Stacey Davis (CCAP) in the preparation of these comments.

APPENDIX A

Program to Identify High Polluting Trucks and Reduce Emissions

Proposed emission reduction measure for consideration by the West Oakland Community Health Protection Program Steering Committee

Working Draft 1-22-19

The following is a proposed (draft) description of an emission reduction measure, *Program to Identify High Polluting Trucks and Reduce Their Emissions*, for consideration by the West Oakland Community Health Protection Program Steering Committee. This measure is being developed by the UC Berkeley Center for Environmental Public Policy in consultation with a range of key stakeholders. We encourage others to make use of the generic template to support consistent presentation of potential emission reduction options. The authors welcome feedback on the proposed measure and template.

Short Description of the Proposed Action	***Establish a new program to identify high polluting trucks and reduce their emissions.*** *Specifically, trucks emitting at elevated levels (above those required under existing state and local regulations) will be identified and abated and repaired.*
Background/Context • What is the rationale/justification for the proposed action? • What are the gaps in current actions?	*Heavy duty trucks emit diesel particulate matter (PM), a substance identified by California as a toxic air contaminant based on its potential to cause cancer. According to CARB, diesel PM is also linked to increased hospital admissions for heart disease and respiratory illnesses as well as premature death.[7] Black carbon (BC) is a component of diesel particulate matter and is also linked to health effects, cancer and climate change. Because BC is measurable[8] and is only emitted directly[9], it can serve as a useful indicator of localized diesel PM emissions from heavy duty vehicles.* *California's truck and bus regulation requires heavy duty trucks in California to install diesel particulate filters and upgrade to 2010 model year (or newer) engines no later than 2023. The drayage truck rule already requires use of*

[7] See Summary: Diesel Particulate Matter Health Impacts on CARB's web page.
[8] In contrast, diesel PM is defined operationally.
[9] In contrast, PM is both emitted directly and formed in the atmosphere as a result of chemical reactions.

	2007 model year (or newer) engines. These regulations are expected to limit emissions to below 0.01 g/bhp-hr (equivalent to the 2007 PM emission standard for new heavy-duty vehicle highway engines). *In registering drayage trucks, registrants must certify that the engine meets the model year standard[10] and indicate the vehicle identification number and model year[11]. However, while truck owners are supposed to ensure that all emission control technologies on the truck are working properly,[12] and the Port of Oakland requires compliance with all CARB requirements,[13] the registration systems (DTR and STEP) do not require proof of clean operation. Recent evidence suggests emissions from some trucks are not controlled as expected.* *A recent study by Preble et al[14] found 7% of port trucks are high emitters even though they have diesel particle filters. Trucks with failed filters account for 65% of fleet black carbon emissions. The highest emitting fraction of trucks is dominated by trucks equipped with DPF and 2007-2009 model year engines, suggesting that diesel particle filters may be failing with age.[15] Moreover, new results looking at the broader truck fleet operating on highways (not just the drayage truck fleet) from observations at the Caldecott Tunnel in 2018 suggest that 10% of non-drayage, diesel trucks do not have diesel particle filters. It is unclear whether these vehicles are exempt or noncompliant with the Truck and Bus rule. These trucks produce much of the non-drayage truck pollution on the road.[16]* *Existing inspection programs test for compliance with the 40% opacity requirement,[17] but are not comprehensive. For*

[10] https://www.arb.ca.gov/msprog/onroad/porttruck/DTRApplication.pdf
[11] https://www.oakportregistry.com/Help/Port_Registry_English_LMC_Tutorial.pdf
[12] Per the drayage truck rule, as summarized for truck owners: https://www.arb.ca.gov/msprog/onroad/porttruck/arbdoc/sumreg.pdf
[13] All drayage activities at the Seaport must be in compliance with both CARB regulations and the Port's drayage truck ban. https://www.oaklandseaport.com/seaport-resources/trucker-resources/comprehensive-truck-management-program/
[14] Preble, CV; Cados, TE; Harley, RA; Kirchstetter, TW, In-Use Performance and Durability of Particle Filters on Heavy-Duty Diesel Trucks, Environmental Science & Technology, 2018. P.11913 DOI:10.1021/acs.est.8b02977.
[15] Ibid. p.11918
[16] Comment from TW Kirchstetter 12-13-18.
[17] No heavy-duty vehicle powered by a 1991 or subsequent model-year diesel engine operating on the highways within the State of California shall exceed 40 percent smoke opacity unless its engine is exempted. https://www.arb.ca.gov/enf/hdvip/ccr_title_13_hdvip.pdf

	example, the existing mandate for annual self-inspection of heavy duty vehicles, the Periodic Smoke Inspection Program (PSIP), excludes owners of single vehicles as well as out-of-state vehicles. Opacity rules and testing do apply to single vehicle owners and out-of-state trucks. However, field inspections at truck weigh stations may inspect less than 10% of trucks each year and are therefore likely to miss many non-compliant vehicles.

Description
 	
• Description of the action(s) to be taken to reduce emissions and/or pollution exposure
 	
• Description of the mandates and/or incentives that will yield the desired action(s)
 	
• Discussion of the existing legal authority and, as applicable, the need for new legal authority
 	
• Identification of design issues that will require analysis and decisions
	This new program will reduce emissions from heavy duty trucks in West Oakland by: 1) identifying trucks whose emissions level are above what would be expected from trucks utilizing particle filters, 2) notifying truck drivers of their higher-than-expected emissions and the need to abate these emissions, and 3) requiring inspection and, as needed, repair of the faulty equipment.
	
	There are several ways this program could be implemented. Two alternative scenarios are described below:
	
	• ***An incentive-based approach.*** *Under this approach, once high-emitting trucks are identified, truck drivers/fleet operators would receive notifications of the high emissions levels along with incentives to test and repair the vehicles. Incentives could come from a combination of state funding for repair/retrofit/replacement, warranty enforcement assistance, etc., as discussed below.*
	• ***A mandatory approach*** *(that could also make use of incentives). Under this scenario, once high-emitting trucks are identified, they would receive a notice indicating:*
	  ○ *Their emission pre-screening signaled possible exceedance of the opacity standard;*
	  ○ *An additional inspection and (as needed) repair must be conducted within a set timeframe, and could be done on-site at the port; and*
	  ○ *Trucks failing to comply as required would not be permitted to re-enter the port, pursuant to a new port policy/regulation.*

Timeframe for Implementation • What is the anticipated timeframe for implementation of the action?	*The proposed action would be implemented quickly, ideally within [2] years. It would make use of known measurement techniques and remedies. Exact timing to establish a program and begin to complete repairs would depend on:* • *The time it takes to design and implement a methodology and plan to identify trucks with high emissions and faulty equipment and to set up notification protocols;*

	• *The time required to designate/establish a facility to undertake testing/inspections (in addition to the current weigh station opacity testing) and repairs and provide the required training;* • *The time needed to define incentives, establish requirements (as applicable), and complete other steps needed for implementation/enforcement.*
Expected Outcomes and Metrics of Success • Estimated emissions outcome • Estimated reduction in pollution exposure • Anticipated health benefits • Other expected benefits (e.g., environmental, economic, sustainable development) • Metrics to track implementation of the action(s) • Activity metrics to assess operation of the action(s)	*The proposed program is expected to reduce emissions in West Oakland by [X] tons/weekday, amounting to more than [y] tons per year.* *The following metrics can be used to monitor progress:* • *Siting and installation of new measurement devices at key locations [e.g., traffic light(s) at the port exit(s)].* • *Metrics to track implementation of the program could also include, for example, establishment of a testing/repair facility, establishment of a system to notify trucks, etc.* • *Metrics to track operation of the action could include: Total number of trucks tested over a specified time period; total trucks with elevated readings over the specified time period; percent of trucks with elevated readings completing inspection/repair in the specified timeframe; etc.* • *Metrics to track outcomes could include measurements of truck emissions before and after their repair; ambient pollution measurements in previously identified local hotspots (at the outset and at different points in time); and health indicators.*
Estimates of Costs and Funding Plan • Total incremental costs of the action • Estimated cost per unit of outcome • Proposed funding sources	*The total estimated cost of the program is [X] dollars (total) or [y] dollars per year. This includes costs borne by the city, the port and truck owners [specify]. These costs are based on estimates of:* • *The cost of establishing a BC emissions monitor and automated license plate recognition system near each terminal exit for the Port of Oakland. Estimated technology cost per site: 40K. Additional costs include development costs (for the technology and data systems), operating costs, and ongoing support for data management and processing. (CARB may be able to provide the emissions monitor on an in-kind basis.)* • *The cost of setting up a testing and inspection/repair station (this could entail building a new facility at the port aimed at inspecting heavy duty trucks, or*

	repurposing an existing facility), as well as unit(s) of mobile inspectors that could travel to other locations in West Oakland. • *The cost of replacement options (new traps, others) and tune-ups* • *Cost of training people to do testing and repairs, as applicable* • *Cost of support for warranty enforcement* • *[Cost of electrification/replacement and charging stations]*

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