

## AGENDA REPORT

**Informational Report:** Seaport Air Quality 2020 and Beyond Plan Mid-Year Progress Report (**Maritime**)

**MEETING DATE:** 12/17/2020

Choose an item.

**SUBMITTED BY:** Bryan Brandes, Maritime Director  
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**APPROVED BY:** Danny Wan, Executive Director

**ACTION TYPE:** None

### **EXECUTIVE SUMMARY:**

This Mid-Year Progress Report (Report) provides the status of the Near-Term Action Plan (NTAP) highlighting new actions added since the Year One (2020) Annual Progress Report to the Board on July 23, 2020. The Report summarizes these new actions and provides additional details on each in Attachments to elicit discussion and direction as appropriate. The Report also summarizes one related action item for December 17, 2020. Pursuant to Board Resolutions 19-41 (June 13, 2019) and 20-59 (July 23, 2020) the following topics are including in this Report: 1) Performance incentive programs for ocean-going vessels (OGVs) and locomotives; 2) Costs and financing aspects of the 2020 and Beyond Plan; 3) Implementation Plan recommendations for rubber-tired gantry cranes and off-dock yard tractors; 4) recommendations for Year 2019 Focused Emissions Inventory and acceleration of the Intermediate Term zero-emissions (ZE) drayage truck goal. The Mid-Year Progress Report also summarizes stakeholder feedback from the November 18, 2020, Task Force Meeting.

### **INTRODUCTION**

This Mid-Year Progress Report updates the Board of Port Commissioners (Board) and public on implementation of the Seaport Air Quality 2020 and Beyond Plan (2020 and Beyond Plan or Plan). The initial phase of Plan implementation is the five-year (Years 2019-2023) Near-Term Action Plan (NTAP). The NTAP provides a concise roadmap for all Plan stakeholders – Board, Port Staff, Seaport tenants and businesses, Task Force members, regulatory agencies, environmental organizations, public, etc. – to inform and engage in Plan implementation activities and track progress.

Upon Plan approval on June 13, 2019, the NTAP contained 37 Implementing Actions (IAs) and 3 goals for the second phase of Plan implementation – the Intermediate Term

(Years 2023-2030.) IAs can range from analyses and reports to purchase of equipment and development of projects. The Plan provides that new IAs can be added to the NTAP upon completion of feasibility analyses, Task Force feedback, Port Staff recommendations and Board approval. For example, on July 23, 2020, the Board approved Port Staff recommendation to add two new IAs - tug retrofits and dedicated truck parking - from the AB 617 West Oakland Community Action Plan (WOCAP, Dec 5, 2019) to the NTAP.

Pursuant to Board direction to Port Staff through Board Resolutions 19-41 (June 13, 2019) and 20-59 (July 23, 2020) to complete additional feasibility studies, information reports and implementation plans, nine new actions have been incorporated into the Near-Term Action Plan. Table 1 presents the NTAP IAs with a summary update for each.

The Board directed Port Staff to complete and present the additional IAs (studies, reports and plans) in the form of agenda reports on a schedule: December 2019, June 2020 and December 2020. Port staff completed and presented the agenda reports on schedule at regular Board meetings in December 2019 and June 2020 and is now presenting the December 2020 Report.

Port staff presented the preliminary findings and recommendations of the December 2020 studies, reports and plans to stakeholders at the November 18, 2020, Task Force meeting. This Mid-Year Progress Report summarizes Task Force feedback and comments.

**Table 1**  
**Status Update for Implementing Actions**  
**Near-Term Action Plan (Years 2019-2023)**  
**December 2020**

IA #	IA Title	Status as of December 2020
1	13 Hybrid Rubber-Tired Gantry (RTG) Cranes at SSAT	<u>Completed</u> : All 13 RTG cranes have been converted to hybrid and are operating successfully today. The hybrid RTGs achieve a 93% reduction in fuel consumption (from 10-12 gallons/hour down to 0.5 gallons/hour), a 95% reduction in diesel particulate matter (DPM), and a 99% reduction in nitrogen oxides (NOx).
2	90% Shore Power Use	<u>Ongoing</u> : Port Staff track shore power usage and produce monthly snapshots (posted on Port’s website) to monitor progress towards the goal of a 90% plug-in rate. Port Staff correspond monthly with each terminal operator and the nine largest shipping lines to report shore power usage and provide details for any calls that did not plug in. The Port-wide plug in rate for 2019 was 84% for the regulated

IA #	IA Title	Status as of December 2020
		<p>fleet<sup>1</sup>. The Port-wide plug in rate for 2020 (through October 2020) was 79% for the regulated fleet. The reduction in plug in rate was mainly caused by COVID-related issues, such as missed commissioning early in the pandemic followed by COVID exemptions due to delays at dry dock for retrofitting new vessels, and travel bans preventing technicians from travelling to do their work. Other reasons for missed plug-ins include the two separate multi-day Extreme Heat Advisory events in August-September 2020 when Governor Newsom issued an executive order for ships to not plug in to reduce demand on the State’s electrical grid. The Port is evaluating installing additional shore power outlets (SPOs) to improve flexibility and increase plug-in rates.</p>
3,4,5	Zero and Near Zero Emission Freight Facilities (“ZANZEFF”) Grant	<p><u>Ongoing</u>: Shippers Transport Express (STE) plans to deploy ten Transpower electric drayage trucks in 2021. Construction of electric charging infrastructure by the Port is currently underway with expected completion in early 2021.</p> <p>Additionally, SSA will test one electric top-pick and five electric yard tractors at the Matson Terminal in 2020/2021. SSA is currently designing the charging infrastructure. This demonstration equipment will help determine operational feasibility for future deployments.</p>
6,7,8	Port Fleet Electrification	<p><u>Ongoing</u>: The Port has purchased one electric passenger van, four electric forklifts, and one electric work truck and has installed appropriate charging infrastructure for each. Port Staff has also installed additional vehicle chargers for future purchases. The Port has postponed new vehicle purchases during part of FY 2020 and all of FY 2021 as a cost-cutting measure which has delayed previously planned electric purchases. The Port will continue to purchase electric vehicles for the Port fleet as opportunities arise.</p>
10	Infrastructure: Capacity and Reliability	<p><u>Ongoing</u>: Current projects and updates, include:</p> <ul style="list-style-type: none"> <li>• 65% carbon free energy in 2019 including 39% renewable and 16% large hydroelectric energy (well above 30% State requirement). Port Utilities forecasts an increase in renewable energy supply as part of the 2020 power portfolio, while keeping electric utility rates approximately 20% less than surrounding utilities.</li> <li>• Study of solar+storage+electric vehicle (EV) chargers for construction is in a preliminary design phase. It will be</li> </ul>

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<sup>1</sup> Steamships and infrequent callers that are not equipped for shore power are exempt from current shore power regulation and are not included in this percentage.

IA #	IA Title	Status as of December 2020
		<p>designed to serve a variety of large EV types and optimize existing Port electrical infrastructure.</p> <ul style="list-style-type: none"> <li>• A demonstration project of a solar+storage+EV charger system for smaller vehicles is also in development.</li> <li>• EV load module installed and collecting data.</li> <li>• Predictive EV charging installed and collecting data.</li> <li>• An inductive charger (wireless) investigation is currently underway.</li> <li>• A large-scale solar system is currently in negotiations for construction</li> <li>• The Port has significant projects to replace the primary substations at both the Seaport (as well as the Airport) in the five-year Capital Program with work currently underway.</li> </ul>
11,12	Infrastructure: Install charging equipment	<p><u>Completed</u>: Charging infrastructure has been installed at the Port's Harbor Facilities building and at Port tenant Impact Transportation and is currently being installed at STE, see 3, 4, 5 above.</p> <p><u>Completed</u>: A power factor correction system installation was completed increasing reliability, regulatory compliance, and increases capacity for more EV's and larger vessels connected to the Port's electrical grid.</p>
13,14	Phase I & II BYD Electric Drayage Truck Demonstrations	<p><u>Completed</u>: Port tenant GSC Logistics is currently operating three BYD electric drayage trucks and one electric yard tractor.</p> <p>Port tenant Sea Logix is currently operating four BYD electric road trucks.</p>
15	Maritime Power Capacity Study for Terminal Electrification	<p><u>Completed</u>: Pursuant to Port Resolution No. 19-41, Port Staff presented an update to infrastructure planning and projects at the December 12, 2019, Board meeting.</p>
16,17	Infrastructure: Future Needs	<p><u>Ongoing</u>: Port staff are tracking future tenant and Port needs for new charging infrastructure.</p>
18	Electric Infrastructure Guide for Port Tenants	<p><u>Completed</u>: The Port's EV Charging Station Permit Application is available on the Port website, with instructions.  <a href="https://www.portoakland.com/business/bids-rfps/bid-engineering/permits/">https://www.portoakland.com/business/bids-rfps/bid-engineering/permits/</a></p>

IA #	IA Title	Status as of December 2020
19	Renewable Diesel for Marine Equipment	Not yet started. Port Staff will start this effort in Calendar Year 2021. Port Staff plan to survey the ferry operators who are using renewal diesel for feedback on feasibility considerations, such as acceptability, cost-effectiveness, etc. The results of this inquiry will assist in informing discussions with tug operators.
20	Renewable Diesel in Port Fleet	<u>Completed</u> : The Port switched to renewable diesel for the Port's fleet in June 2020. The transition to renewable diesel has been smooth, with no reported issues.
21	Evaluate Vessel Speed Reduction (VSR) Program	<u>Completed</u> : Port Staff completed an initial technical analysis of VSR in 2018-2019 as part of Plan development. Port Staff completed an analysis of performance incentive programs for ocean-going vessels, including VSR, in November 2020 for presentation to the Board on December 17, 2020.
22-31	Monitoring and Tracking	<u>Ongoing</u> : Port Staff are actively tracking hybrid RTG project progress at SSAT (see IA #1, above), monitoring shore power usage (see IA #2, above), and the San Pedro Bay Ports' Clean Air Action Plan CAAP), Clean Truck Fund, and Zero Emission Truck Feasibility Studies as well as participating in California Air Resources Board (CARB) rule-making for the proposed control measure for the At-Berth Rule, Advanced Clean Truck Rule, Commercial Harbor Craft Rule, and Transportation Refrigeration Unit Rule.
32	Encourage Railroads to Use Cleanest Possible Equipment	<u>Completed</u> : Port Staff prepared and transmitted a letter to the UPRR and BNSF railroads encouraging the railroads to consider applying for grant funds through the BAAQMD for cleaner switcher and long-haul locomotives and inviting the railroads to meet with Port and BAAQMD staff and to actively participate in the 2020 and Beyond Task Force meetings. The locomotive fact sheet for the Proposition 1B: Goods Movement Program grant was attached to the letter, and it was delivered along with copies of the 2020 and Beyond Plan. OGRE was not included in the letter because they already have a Tier 4 switcher and they do not do any long-haul moves.
33-35	Outreach to Truckers	<u>Ongoing</u> : Port Staff actively participate in the Port-sponsored Truckers Work Group, Harbor Trucking Association meetings, as well as hosting weekly Office Hours at the Port. (Office Hours have been suspended since March 2020 due to COVID-19.)  Additionally, the Port coordinated and participated in a meeting in April 2020 between BAAQMD grant support staff and GSC Logistics to help raise truck driver awareness of truck replacement grant opportunities (Carl Moyer grant).

IA #	IA Title	Status as of December 2020
36	Implement Workforce Development Plan	<u>Ongoing</u> : Pursuant to the Workforce Development Plan, the Port Department of Social Responsibility completed a Workforce Development Gap Analysis assessment on August 25, 2020. This assessment determined there was not workforce development concerns with the 2020 and Beyond Plan NATP
37	Pursue Low Carbon Fuel Standard ("LCFS") Credits	<u>Ongoing</u> : The Port registered its shore power equipment and electric car charging stations in the LCFS program (run by CARB) and has been earning LCFS credits since January 2019.  Port staff monetize the credits earned from Q1 2019 through Q12020 by selling them via auction directly to a regulated entity in the program. The LCFS funds will be used in the future to further the Port's electrification goals.
<b><i>New Implementing Actions (Pursuant to Board Resolution 20-59, July 23, 2020)</i></b>		
38	Upgrade Tug Engines (New)	<u>Ongoing</u> : Use BAAQMD financial incentives to upgrade tugs operating at the Port.  (Note: On June 13, 2019, the Board directed Port Staff to analyze the feasibility of Port-related strategies in the final West Oakland Community Action Plan – "WOCAP" – for potential inclusion in an update to the 2020 and Beyond Plan (Port Resolution 19-41, June 13, 2019). Pursuant to Resolution No. 19-41, Port Staff completed the feasibility analysis and recommended that the Upgrade to Tug Engines (Port-related strategy #50) be included in the NTAP. The Board of Port Commissioners approved the Port Staff recommendation on July 23, 2020 (Board Resolution No. 20-59)
39	Establish Dedicated Truck Parking (New)	<u>Completed</u> : Establish 15 acres of dedicated truck parking and container staging at the Seaport. The 15 acres has been recently constructed and is in current operation at the Roundhouse property in the Maritime area. As with all development, it is possible the parking could be relocated in the future within the Maritime area in but the dedication of 15 acres will remain available at all time.  (Note: This is Port-related strategy #26 from the West Oakland Community Action Plan – "WOCAP" – approved by the Board of Port Commissioners for inclusion in the NTAP, pursuant to Board Resolution No. 20-59, July 23, 2020.)
<b><i>Studies, Reports and Plans (Resolutions 19-41, June 13, 2019 and 20-59, July 23, 2020)</i></b>		
40	Feasibility Study of Zero-Emissions (ZE) Trucks (Reso. 19-41)	<u>Completed</u> : Port Staff completed and presented the feasibility study to the Board on December 12, 2019.  Recommendation: Accelerate ZE Intermediate-Term Equipment and Infrastructure Goal I-2 to deploy 17 ZE drayage trucks by 2021.

IA #	IA Title	Status as of December 2020
		Prepare implementation plan within 6 months of July 23,2020, Board Meeting.
41	Feasibility Study of ZE Cargo-Handling Equipment (CHE) (Reso. 19-41)	<p><u>Completed:</u> Port Staff completed and presented the feasibility study to the Board on December 12, 2019.</p> <p>Conclusion: RTGs are feasible when purchasing new; new zero-emissions off-dock yard tractors may be feasible if incentive funding is available to offset both equipment and charging infrastructure costs.</p>
42	Report on Seaport Electrical System Capacity (Reso. 19-41)	<p><u>Completed:</u> Port Staff completed and presented the information report to the Board on December 12, 2019.</p> <p>Conclusion: The Port currently has Signiant additional capacity to support substantial growth in electrification. Port Staff will pursue opportunities to enhance on site generation, increased efficiency, and support deployment of “last mile” infrastructure as locations and deployments are planned.</p>
43	Report on Incentive Programs for Ocean-Going Vessels (OGVs) and Locomotives (Reso. 19-41)	<p><u>Completed:</u> Port Staff completed and will present the information report to the Board on December 17, 2020.</p>
44	Report on Financing and Costs of the 2020 and Beyond Plan (Reso. 19-41)	<p><u>Completed:</u> Port Staff completed and will present the information report to the Board on December 17, 2020.</p>
45	Focused Year 2019 Emissions Inventory for OGVs, Tugs and Rail (Reso. 19-41)	<p>Deferred due COVID-19 financial constraints.</p> <p>Recommendation Board Direct Port staff to amend Resolution No. 19-41 to remove requirement for Focused Year 2019 Emissions Inventory in favor of comprehensive Year 2020 Emissions Inventory.</p>
46	Implementation Plans for RTGs, Off-Dock Yard Tractors and Acceleration of	<p><u>Completed:</u> Port Staff completed the implementation plans analysis and will present the findings to the Board on December 17, 2020 for their review and direction.</p> <p>Recommendations:</p>

IA #	IA Title	Status as of December 2020
	Intermediate Term Goal for ZE Drayage Trucks (Reso. 20-59)	<ul style="list-style-type: none"> <li>• RTGs: Amend Port Environmental Ordinance to require purchase of new RTGs to be hybrid or cleaner.</li> <li>• ZE Off-Dock Yard Tractors: No recommendation.</li> <li>• ZE Drayage Trucks: Accelerate deployment of ZE drayage trucks from 21 by Year 2027 to 17 by Year 2021.</li> </ul>

**PUBLIC ENGAGEMENT: NOVEMBER 18, 2020 TASK FORCE FEEDBACK**

The 2020 and Beyond Plan provides for public engagement through the 2020 and Beyond Plan Public Engagement Plan (PEP) Task Force. The Co-Chairs Steering Committee (including community, regulatory, industry, and Port membership) guides the public engagement process, sets the agenda for the Task Force Meetings, reviews technical analyses prepared by Port Staff and facilitates feedback from Task Force members to Port Staff.

On Tuesday, November 10, 2020, the Co-Chairs met to finalize the agenda for the November 18, 2020, Task Force meeting. On Wednesday, November 18, 2020, the Co-Chairs convened a virtual Task Force meeting. Seventy-three individuals representing over 25 organizations participated. Port Staff presented a progress update on the Near-Term Action Plan, preliminary findings and recommendations, where applicable, from the new reports (i.e., incentive programs; costs and financing aspects of the Plan; implementation plans for rubber-tire gantry cranes and off-dock yard tractors), and a 2021 calendar for Task Force meetings. The Task Force participants provided comments and asked questions on the planned December 2020 reports.

The PEP requires that Port staff document participants’ feedback. The PEP requires that the Port’s response to feedback be reported at the subsequent Task Force Meeting (see Plan Appendix G: Public Engagement Plan, p.G-18.) The Division of Social Responsibility is scheduling the next Task Force Meeting for April 2021. This Mid-Year Progress Report summarizes key feedback from participants at the November 18, 2020, Task Force meeting in the form of comments and questions in the Overview of December 2020 Reports section. Staff has summarized key comments and questions in this report under each respective section. While the a complete report will be shared with the Task Force at the next meeting, Port Staff will include discussion of the feedback received, the ongoing evaluation of this feedback, and, where applicable, how Staff is incorporating and/or responding to all input and feedback at the December 17, 2020 Board Meeting.

**OVERVIEW OF DECEMBER 2020 REPORTS**

**Informational Report: Study of Performance Incentives Programs for Ocean-Going Vessels and Locomotives**

Resolution 19-41 (June 13, 2019) directed Port Staff to study performance incentive programs for ocean-going vessels and locomotives. The information report, prepared by the Division of



Environmental Programs and Planning (EP&P), presents the study, which includes a review of existing programs, their costs and benefits, a feasibility analysis of existing programs and conclusions. Based upon the study, the information report concludes that performance incentive programs for OGVs and locomotives would not be an effective measure to reduce DPM emissions or related exposure to DPM.

Specifically, for OGVs, a vessel-speed reduction (VSR) program encouraging OGVs to slow down by 3-5 knots within San Francisco Bay while transiting to/from Port of Oakland berths would not result in significant DPM reductions. Ships within the San Francisco Bay are already limited to 15 knots maximum. When the Port conducted a preliminary analysis of VSR in July 2018, the Port's consultant reported that the San Francisco Bar Pilots had expressed concerns that slowing down presented a navigation safety hazard from diminished maneuverability. Other OGV performance incentive programs, known as "green ship" or "clean engine" programs, are not recommended because 1) they do not reduce the pollutants of primary concern, which are diesel particulate matter and greenhouse gases and 2) these programs are already in effect at the San Pedro Bay Ports and the Port of Oakland is not a first- or only- port of call, additional financial incentives from the Port of Oakland are unlikely to influence ship deployment decisions.

Similarly, the information report does not recommend a performance incentive program for locomotives due to the very limited DPM reduction that might be achieved (-0.2 to -0.25 tons DPM/year.)

However, while Port staff do not recommend performance incentive programs, Port staff do propose two new measures: 1) to address environmental impacts from ocean-going vessels transiting to the Port of Oakland, develop a staff proposal to contribute to NOAA's "Blue Whales and Blue Skies" Program to promote emissions reductions and to reduce whale strikes by OGVs in NOAA Marine Sanctuaries located in California coastal waters; and 2) encourage BNSF to use or upgrade to Tier 4 switcher locomotives at the Joint Intermodal Terminal (JIT) railyard. The Port sent a letter to the UPRR and BNSF encouraging both railroads to apply for grant funding for cleaner switcher and long-haul locomotives (see NTAP, Implementing Action #32, in Table 1.)

Task Force Comments on Performance Incentive Programs (*italics*):

OGV Performance Incentives:

- *The Port should consider using nitrogen oxides (NOx) as an indicator in evaluating performance incentive programs for ocean-going vessels. Some participants stated that NOx is a precursor component of particulate matter (PM) and felt that the Port's analysis*

*had discounted the contribution of NOx to PM formation. The Port should collect NOx data and work with the BAAQMD to determine the PM reduction benefit.*

- *The Port's study seems to dismiss the benefits of using Ultra-Low Sulfur diesel fuel; the Port should pursue the use of this fuel and encourage the shipping lines to conduct pilot projects.*
- *Given the existing performance incentive programs at the ports of Los Angeles and Long Beach, the Port should consider partnering with those ports to ensure that the cleaner vessels also call the Port of Oakland.*

#### Locomotives Performance Incentives:

- *The Port did not study operations or equipment at the Union Pacific Railroad (UPRR) in Oakland. Although the UPRR is not a Port tenant, UPRR operations have an impact.*
- *The BAAQMD has grant funds to replace rail switcher engines. The Port and its partners should encourage the UPRR to take advantage of these grants.*

#### **Informational Report: Report on the Costs and Financing Aspects Associated with the Seaport Air Quality 2020 and Beyond Plan – The Pathway to Zero Emissions, including Discussions of Grant and Incentive Funding from Outside Sources**

Resolution 19-41 (June 13, 2019) directed Port Staff to study the costs and financing aspects of the Plan, including grants and incentives from outside sources, such as CARB, BAAQMD, the California Energy Commission, and private sector and Port resources. The information report, prepared by the Finance Division, presents the study, which includes the overall approach to funding the Plan, including guiding principles, grants and incentives and detailed information on specific funding sources. The information report provides detail on funding the Near-Term Action Plan (Years 2019-2023) as well as funding considerations for the Intermediate Term (2024-2030) and Longer-Term (2030-2050) implementation phases.

The main conclusion of the study is that enough funding sources exist through Port cash, tenants' cash, or grants to the Port, its tenants or equipment operators to support the Near-Term Action Plan. In the case of grants challenges include narrow limitations and rigid multiyear requirements on uses of funding, costly grant provisions that last for years, time intensive reporting requirements that also lasts for years, as well as application processes and deadlines that the Port, tenants, or equipment owners cannot always effectively satisfy. The Port carefully evaluates and considers all grant opportunities as well as supporting tenants in considering grants but only pursues grants that show a net cost/benefit in achieving Port priorities while limiting or mitigating the risk or inflexibility created by the grant commitments. The information report discusses grants and incentives in detail.

The greatest financial challenges presented by the 2020 and Beyond Plan are created in the Long-Term Phase (Years 2030-2050) by the State's goal for a fully electric state-wide drayage truck fleet by 2035 (Executive Order N-79-20). Approximately 6,000 trucks are registered at

the Port. The study estimates the cost to convert this fleet to zero-electric trucks, once technology is available, is between \$660 million and \$2.8 billion.

Task Force Comments on Costs and Financing Aspects of the Plan (*italics*):

- *Rebates: Would it be feasible for the Port to assist tenants by offering rebates in their contracts to supplement grants and assist tenants meet their portion of costs?*
- *Revenues from Port Electricity Sales: Has the Port estimated revenues from electricity sales for electric trucks, equipment and shore power? Is it possible for the Port to use that electricity sales revenue to fund the Plan's initiatives?*
- *Cost-Savings: Fuel and maintenance costs savings can add up quickly and offset initial capital investment costs in just a few years. It is critical to calculate these savings as part of the cost-benefit analysis.*

**Informational Report: Implementation Plan recommendations for the Proposed Intermediate Term (2023-2030) Equipment and Infrastructure Goals of (1) Purchase of all new Hybrid or Cleaner Rubber-Tire Gantry (RTG) Cranes and 2) Purchase of all new Zero-Emissions Off-Dock Yard Tractors.**

Resolution No. 20-59 (July 23, 2020) directed Port Staff to prepare a plan to implement proposed new Intermediate-Term equipment goals, specifically for RTGs and off-dock yard tractors. The Informational Report for RTGs and off-dock yard tractors requests the Board advise an regarding an amendment to the Port Environmental Ordinance to require that all new manufactured RTG crane purchases be hybrid-electric or cleaner. Based upon Board input and direction Staff would return with the appropriate follow on action. The Staff report does not recommend that the Board require all new off-dock yard tractors be ZE based upon tenant feedback, the total net cost of implementation, grant funding eligibility constraints, and other feasibility considerations, such as a lack of cost-effectiveness for small fleet owners.

Task Force Comments on RTG and Off-Dock Yard Truck Implementation Recommendations (*italics*):

- *Zero-Emissions Yard Tractors: Why is the Port not recommending that tenants purchase zero-emissions yard tractors like the RTG requirement proposed in the Port's Environmental Ordinance?*

**Agenda Report (Resolution): Amendment to Port Resolution No. 19-41 (June 13, 2019) to 1) remove requirement for a Year 2019 Emissions Inventory for OGVs, Tugs and Rail in favor of planned Year 2020 Inventory and 2) update the Intermediate-Term**

***Equipment and Infrastructure Goal I-2 to Accelerate the Zero-Emissions Truck Deployment to 17 Zero-Emissions Drayage Trucks by 2021.***

Resolution No. 19-41 (June 13, 2019) directed Port Staff to conduct a focused Emissions Inventory (“EI”) of ocean-going vessels, tugboats, and rail tenants (i.e., BNSF and West Oakland Pacific Railroad) for Year 2019. Due to the COVID-19 pandemic and related financial constraints, the Port deferred funding the focused EI. Under both the Maritime Air Quality Improvement Plan (MAQIP) and the current 2020 and Beyond Plan, the Port conducts periodic emissions inventories to estimate emissions from Seaport mobile sources. The Near-Term Action Plan calls for the next EI to be prepared for Year 2020 emissions, which is also the planning horizon for the MAQIP. Because the Year 2020 Emissions Inventory is comprehensive and will include emissions from OGVs, tugs and rail, Port staff recommend that the Board approve an amendment to Resolution No. 19-41, to remove the requirement to perform the Focused Year 2019 Emissions Inventory for OGVs, Tugs and Rail because this would be duplicative and wasteful of Port financial and Staff resources.

Board Resolution 19-41 also directed Port staff to prepare a feasibility analysis of replacing all drayage trucks at the Port of Oakland with ZE trucks including the feasibility of related goals and metrics. Port staff completed the feasibility analysis and presented its findings and conclusions to the Board on December 12, 2019. Using the feasibility criteria set forth in the Plan, the feasibility analysis concluded that ZE trucks were not currently affordable, cost-effective, commercially available or operationally feasible for reliable, long-haul operations.

In conducting the feasibility analysis, Port staff reviewed the progress of existing and programmed demonstration projects for ZE drayage trucks in short-haul service. Port staff reported that Port tenant GSC Logistics is currently demonstrating three battery electric BYD trucks. Another tenant, Sea Logix is demonstrating operating four battery electric BYD trucks. None of these demonstration trucks is in long-haul service. Finally, under the ZANZEFF project (NTAP Implementing Actions #3-5), Port tenant SSA plans to deploy ten electric drayage trucks in 2021.

Port staff reviewed the progress of the two demonstration projects already underway and revisited the Intermediate Goal I-2 to “deploy 21 zero-emissions drayage trucks by 2027.” Under Resolution No. 20-59 (July 23, 2020), the Board directed staff to develop an implementation plan for the acceleration of this Intermediate Term goal. Given that Port staff anticipate that at least 17 of the 21 demonstration trucks will arrive earlier than 2027, Port staff now recommend revising Intermediate Goal I-2 to accelerate zero-emissions drayage truck deployment, as follows “deploy 17 battery-electric trucks by 2021.” The lessons learned from this accelerated deployment will provide valuable data for future ZE truck deployment.

The three Attachments provide additional details on each of the Information Report Topics and the companion Action Agenda Report provides additional details on the requests result ion to amend Port Resolution No. 19-41.