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Title:	PRESENTATION AND DIRECTION TO STAFF ON THE PROPOSED APPROACH FOR FURTHER PROGRESS ON A MARITIME CLEAN AIR STRATEGY; A STATUS UPDATE ON A FEW RECENT MARITIME-RELATED EMISSION REDUCING PROJECTS BEING PURSUED BY STAFF AND DISTRICT TENANTS; AND AN INFORMATIONAL UPDATE ON THE PORTSIDE ENVIRONMENTAL JUSTICE NEIGHBORHOODS (PORTSIDE COMMUNITY) SELECTION FOR A COMMUNITY EMISSION REDUCTION PROGRAM (CERP) BY THE CALIFORNIA AIR RESOURCES BOARD IN DECEMBER 2019, ALL OF WHICH ARE A FOLLOW UP TO PREVIOUS BOARD DIRECTION ENCOURAGING STAFF TO SUPPORT PATHWAYS TOWARDS ZERO AND NEAR-ZERO EMISSION REDUCTION GOALS				

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Attachments: 1. 14. 2020-0090 Attachment A, 2. 14. 2020-0090 Attachment B, 3. 14. 2020-0090 Attachment C

Date	Ver.	Action By	Action	Result
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DATE: March 10, 2020

SUBJECT:

PRESENTATION AND DIRECTION TO STAFF ON THE PROPOSED APPROACH FOR FURTHER PROGRESS ON A MARITIME CLEAN AIR STRATEGY; A STATUS UPDATE ON A FEW RECENT MARITIME-RELATED EMISSION REDUCING PROJECTS BEING PURSUED BY STAFF AND DISTRICT TENANTS; AND AN INFORMATIONAL UPDATE ON THE PORTSIDE ENVIRONMENTAL JUSTICE NEIGHBORHOODS (PORTSIDE COMMUNITY) SELECTION FOR A COMMUNITY EMISSION REDUCTION PROGRAM (CERP) BY THE CALIFORNIA AIR RESOURCES BOARD IN DECEMBER 2019, ALL OF WHICH ARE A FOLLOW UP TO PREVIOUS BOARD DIRECTION ENCOURAGING STAFF TO SUPPORT PATHWAYS TOWARDS ZERO AND NEAR-ZERO EMISSION REDUCTION GOALS

EXECUTIVE SUMMARY:

At the June 18, 2019 Board meeting, the Board adopted a resolution authorizing staff to update the District's 2007 Clean Air Program to align with State programs and to develop district-related plans and projects that reduce emissions and improve air quality. At that hearing, the Board also expressed an interest in establishing emission reduction targets. Acknowledging the complexity of emission reduction efforts, particularly on Port tidelands, the Board directed staff to do additional research to better understand and inform establishing new, future emission reduction targets for the District.

Staff completed research which involved reviewing the District's current emission reduction plans and projects, as well as benchmarking these efforts against other California ports. It also included collaborating with District tenants and stakeholder agencies to develop an approach for updating the District's 2007 Clean Air Program and identifying potential emission reduction targets, which is being referred to as the Maritime Clean Air Strategy (MCAS).

The approach for developing the MCAS involves:

- (1) augmenting the District's 2016 Maritime Air Emission Inventory with additional data;
- (2) assessing the current state of emission reduction technologies, fuels, and strategies;
- (3) evaluating the feasibility of these strategies in terms of their cost and operational feasibility for the Port of San Diego and its tenants; and,
- (4) developing different scenarios with high-level cost estimates to provide a range of achievable near-term and long-term emission reductions.

When completed, this analysis will provide the necessary information to establish emission reduction goals for the District.

In addition, the California Air Resources Board (CARB) selected the Portside Environmental Justice Neighborhoods (Portside Community) for a Community Emissions Reduction Program (or CERP) in December 2019. District staff is an active member on the Portside Community's AB 617 Steering Committee and will be working closely the San Diego Air Pollution Control District (SDAPCD) staff and other steering committee members to help develop the Portside Community's CERP this calendar year.

Staff seeks Board direction on staff's proposed approach for developing the MCAS, which is intended to support a pathway to zero- and near-zero emissions for certain sectors and support the AB 617 Portside Community's emission reduction efforts, including development of the CERP.

RECOMMENDATION:

Receive staff's presentation and provide direction on staff's proposed approach for further progress on the District's Maritime Clean Air Strategy to support pathways towards zero and near-zero emission reduction goals.

FISCAL IMPACT:

Funds associated with the preparation of District plans and projects referenced in this item are budgeted primarily with Professional Services expense account (#620100). Funds required for future fiscal years associated with this topic will be budgeted for in the appropriate year subject to Board approval upon adoption of each fiscal year's budget.

COMPASS STRATEGIC GOALS:

This agenda item supports the following Strategic Goal(s).

- A Port that the public understands and trusts.
- A thriving and modern maritime seaport.

- A Port with a healthy and sustainable bay and its environment.
- A Port with a comprehensive vision for Port land and water uses integrated to regional plans.
- A Port that is a safe place to visit, work and play.
- A financially sustainable Port that drives job creation and regional economic vitality.

DISCUSSION:

I. Background

This item discusses staff's approach to develop the Maritime Clean Air Strategy (MCAS) and how benchmarking the Ports of Los Angeles and Long Beach (collectively referenced as San Pedro Bay Port Complex) and the Port of Oakland's emission reduction initiatives informed the District that a study is needed to help prioritize emission reduction efforts. The study will include (1) recent and anticipated State regulatory requirements, (2) new and emerging emission reduction technologies, and (3) estimated costs and operational feasibility. Based on these findings, staff recommends developing three or four different scenarios as part of the MCAS document. The scenarios will provide a better understanding of the timing and costs associated with different strategies, projects, and/or programs. This analysis will provide the necessary background information that can help the Board establish emission reduction target(s) that are appropriate for the District.

The MCAS will enable the District to more closely align with the State's air quality and greenhouse gas reduction initiatives, as directed by the Board last June 2019 (Attachment A - Resolution No. 2019-084). The State has a long history of regulating emissions and there are several important new regulatory concepts that are on the horizon. Many of the anticipated regulations under consideration by CARB have operational and business implications to the goods movement industry. (Attachment B - CARB's Recent and Anticipated Rulemaking and Implementation Schedule Affecting Goods Movement - specifically, pages 3 and 4).

The MCAS will also support the Portside Environmental Justice Neighborhoods (Portside Community's) Community Air Protection Program (AB 617 Program) (Attachment C - June 18, 2019 Board Agenda, File #2019-0190). In December 2019, CARB selected the Portside Community for a Community Emissions Reduction Program (CERP). The purpose of the CERP is to focus and accelerate new actions that go beyond existing State and regional programs to provide direct reductions in air pollution emissions and exposure within Portside communities. The SDAPCD will be working with the Portside Community Steering Committee to prepare a CERP this calendar year.

II. Benchmarking - Other Ports

California ports are all faced with the rigorous task of complying with CARB's ambitious regulatory framework to reduce statewide emissions for mobile sources. Notably, the San Pedro Bay Port Complex (Ports of Los Angeles and Long Beach) and the Port of Oakland are leading the way in planning efforts to create a feasible pathway to near-zero and zero emission targets. Both the San Pedro Bay Port Complex and Port of Oakland have recently released updated clean air plans and studies. These plans serve as the ports' foundations to implement various emission reduction programs and projects.

- **San Pedro Bay Port Complex - Clean Air Action Plan (November 2017)**

In 2017, the cities of Los Angeles and Long Beach made a joint declaration for creating a zero-emissions goods movement future - with ultimate goals of zero emissions for cargo handling

equipment by 2030, and zero emissions for on-road drayage trucks serving the ports by 2035. With this mission in mind, the San Pedro Bay Port Complex released an update to their 2006 Clean Air Action Plan in November 2017 (2017 CAAP Update). The 2017 CAAP Update provides guidance to help the region achieve clean air goals and to support the statewide vision for a more sustainable freight movement.

The 2017 CAAP Update identifies transitioning to Zero Emission on-road drayage trucks by year 2035 as one of its goals. The following year, it released the 2018 Feasibility Assessment for Drayage Trucks that looked at the feasibility of Zero and Near-Zero on-road trucks. Around the same time, the San Pedro Bay Port Complex was awarded a grant from the State's Cap-and-trade Program to help fund a Zero Emissions Pilot Project, which included 10 hydrogen fuel cell trucks for the Port of LA and 15 battery electric trucks for the Port of Long Beach. Finally, on December 18, 2019, the San Pedro Bay Port Complex held its second workshop on a proposed Clean Truck Program Rate program, that would institute a \$10 surcharge for all non-electric container trucks calling to the Ports, and noted that the program could be implemented as early as Fall of 2020.

- **Port of Oakland - Seaport Air Quality 2020 and Beyond Plan (June 2019)**

In June 2019, the Port of Oakland released its Seaport Air Quality 2020 and Beyond Plan: The Pathway to Zero Emissions (2020 and Beyond). 2020 and Beyond is a master plan for achieving the Port of Oakland's vision of a zero-emissions seaport through changes in equipment, operations, fuels, and infrastructure. 2020 and Beyond acknowledges that the full transition to a zero-emissions seaport will require substantial financial and resource investments and commitments by the Port of Oakland and its partners. The transition will occur in phases over decades; it will require the sustained engagement and commitment of all stakeholders during all phases of 2020 and Beyond implementation.

To meet 2020 and Beyond's intermediate goal of deploying 21 zero-emission drayage trucks by 2027, the Port of Oakland released the Zero-Emission Drayage Truck Feasibility Study in November 2019 and identified two types of zero-emission trucks presently being developed: battery electric and hydrogen fuel cell. It acknowledges the challenges associated with obtaining zero emission drayage trucks: (1) Port of Oakland does not own or operate any of the 8,000 - 9,000 drayage trucks operating at their terminals; (2) electric charging requires more acreage than diesel fueling because of the amount of time required to charge; and (3) an electric truck costs five to ten times more than a used diesel truck.

III. Port of San Diego - Approach for Developing the Maritime Clean Air Strategy

Similar to the San Pedro Bay Port Complex and the Port of Oakland, the District has relied on plans and partnerships to develop a variety of emission reduction projects and programs on port tidelands. The District's 2007 Clean Air Program set the foundation for the Port to implement Shore Power at the Cruise Ship Terminal and at the Tenth Avenue Marine Terminal, a Vessel Speed Reduction Program, and a Clean Truck Program. As laws, regulations and technologies continue to change, it's important for the District to have a broad, comprehensive and flexible strategy that helps it prioritize clean air initiatives in a manner that supports maritime business objectives.

Staff recommends that the MCAS include a comprehensive study of various emission reduction initiatives to help the District determine which efforts should be prioritized and/or how they should be phased in over time. The Study is also intended to help clarify the role the District can play in

supporting tenants and terminal operators with transitioning to zero and near-zero technologies. Finally, the MCAS will include a near-term and long-term assessment of potential emission reductions that can be realized on Port tidelands, in conjunction with high-level cost estimates, to provide the Board with adequate background prior to establishing emission reduction targets for the District.

Following the Board's June 2019 direction, District staff formed a cross-functional, interdisciplinary team made up of Port and tenant representatives that have been meeting bimonthly to develop an approach to prepare the MCAS. The four primary components that will be included in the MCAS are described below:

1. Regulatory Framework

The MCAS will provide pertinent background information on emission reduction efforts, including recent and upcoming State legislative requirements, as well as relevant background information on the District's past emission reduction efforts. Given the State's ambitious greenhouse gas emission reduction targets and its emphasis on improving air quality in disadvantaged communities, CARB has plans to adopt more stringent regulatory requirements pertaining to ocean-going vessels, on-road drayage trucks, cargo handling equipment and other mobile sources throughout the state. Understanding when CARB is likely to implement future regulatory requirements will help the District better prioritize what projects, strategies and/or investments it should pursue in the near-term (e.g., 3 to 5 years) and which ones are more suitable in the long-term (e.g., 5+ years). This section will also summarize some of the District's more notable emission reduction efforts to date, to document achievements and to help guide and inform what projects, programs and strategies should be pursued in the future.

This section will also provide background information on the AB 617 Portside Community, which is one of ten communities originally selected by CARB to reduce exposure to air pollution in disproportionately burdened communities throughout the State. It will discuss how the MCAS can be used to support the efforts identified in the AB 617 Portside Community's Community Emissions Reduction Plan (CERP), and the role that the AB 617 Portside Steering Committee played in developing the MCAS.

2. Inventory and Operations

The MCAS will update the District's 2016 Maritime Emission Inventory¹ to incorporate emissions associated with its maritime industrial sources (e.g., shipyards) and District owned and operated passenger vehicles, trucks, boats, and equipment. Historically, maritime industrial uses were not included in inventories, because these are stationary sources that are regulated by the San Diego County Air Pollution Control District. However, given that several maritime industrial uses are located within the geographical boundary of the AB 617 Portside Community, it may be appropriate to include them in the MCAS. Similarly, it may be appropriate to include the District's mobile fleet of passenger vehicles, boats, trucks and other equipment because the District has direct operational control over these assets. The inventory will include emission estimates from the following seven sources or sectors:

- ocean going vessels;
- harbor craft and fishing;
- drayage trucks;
- cargo handling equipment;

- rail;
- stationary maritime industrial uses (e.g., shipyards and boatyards); and
- District fleet vehicles.

In addition to completing an emissions inventory from these sectors, it's also important to identify current and future operational needs from the owners and operators of the equipment. There may be some operations that can “pilot” or “demonstrate” new technologies in the near-term (2 to 5 years), whereas others may need to wait until the technology advances to meet their operational needs.

3. Technologies, Costs, and Feasibility

The MCAS will include an assessment of the current state of technologies, fuels, and strategies that can be employed to reduce emissions from mobile and stationary sources identified in the inventory. The assessment will address commercial availability, operational feasibility, and other economic considerations, as it evaluates the emission reduction potential of various measures and supporting infrastructure requirements. Further, this section will explain why certain measures may or may not be transferable to the District, and clearly articulate why specific technologies, practices, and measures warrant further consideration by the Port of San Diego and its tenants. As such, this section will provide a generalized assessment of the “risk” that may be associated with deploying certain measures, particularly for those “pre-market ready technologies.”

4. Projects, Strategies, and Scenarios

Based on the preceding three efforts, the MCAS will identify emission reduction strategies or projects, which may involve combining measures from different sectors. For example, it may identify an electrification project at one of the District's terminal facilities that expands shore power capabilities for vessels and includes charging facilities for cargo handling equipment. Other strategies may be stand alone for certain sectors, such as the District's Vessel Speed Reduction Program.

The MCAS will ultimately combine the various projects and strategies into specific emission reduction scenarios. The scenarios will be used to provide a range of emission reductions that could be attained and a potential timeframe to achieve them. The scenarios will also include high-level cost estimates to understand the potential financial implications of selecting a reduction target. This information is intended to help the Board determine what the District's near-term and long-term emission reduction goals should be.

Since many of the emission reduction initiatives to be evaluated in the MCAS are new and emerging technologies and/or fuel types, the project team has identified a framework useful for organizing the value and timing of future investments. This framework identifies three categories differentiated, in large part, by time, cost, and risk, as explained below:

A. Commercial: The initiatives falling into this category involve the use or deployment of commercially available equipment that meets existing regulatory requirements, including allowable air emissions. The lifespan and cost for the equipment, fuels, or infrastructure in this category are generally known, as are the likely amount of air emissions reductions from deploying these initiatives. As a result, the risks of deployment are more measurable. It is likely that the initiatives in this category, such as expanded shore power at the cruise ship terminal, meet (rather than exceed) current regulatory requirements.

A good example of a Commercial project is the Shore Power Expansion project at the Cruise Ship Terminals (District). The District is currently advancing efforts to expand shore power capabilities at the District's Cruise Ship terminals to allow two cruise ships to connect to shore power at the same time, in compliance with CARB's regulatory requirements. This item is scheduled to be heard by the Board in March 2020, and if the Board approves the item, the additional shore power connection could be operational as early as January 2021.

B. Beyond Compliance: The initiatives falling into this category involve the use or deployment of commercially available fuels, equipment or infrastructure that exceed current regulatory or market requirements. As a result, these initiatives are likely to result in a greater reduction in air emissions compared to initiatives in the commercial category. The lifespan for these items is generally known. The costs of deployment are likely above market rate, meaning that there is likely an alternative that costs less but pollutes more. One purpose of local, federal and state government environmental grant programs, such as DERA grants and Carl Moyer funds, is to incentivize the deployment of these more-environmentally friendly fuels, equipment or infrastructure. The risks of deployment are low-to-moderate and understood. Another example would be CARB's recently announced CORE Grant Program, which provides vouchers to replace lower tier trucks (such as tier 3), with newer tier trucks (such as tier 4 or electric), that emit lower emissions.

Pasha Automotive Services has acquired three on-road electric drayage trucks, which is a prime example of a Beyond Compliance project. With the help of grant funds, Pasha Distribution Services² has been using these three electric trucks to shuttle automobiles (e.g., cargo) to / from the National City Marine Terminal (NCMT) and a 100-acre offsite storage facility in Otay Mesa (approximately 21 miles one way). Traditional diesel trucks are only used to supplement these deliveries when all three electric drayage trucks are in use and otherwise unavailable. Pasha Automotive Services has been introducing the on-road electric drayage trucks as they have acquired them over the past 18-months. To date, the on-road electric drayage trucks have logged approximately 4,600 miles total.

C. Pre-Commercial Pilot Projects: The initiatives falling into this category involve testing the deployment of fuels, equipment or infrastructure before they become commercially available. The goal of these initiatives is to reduce emissions while demonstrating operational feasibility. The lifespan, cost, and even effectiveness of these items are likely not well known, and in some cases, the project will fail to meet its objectives. As a result, these deployments are considered as high risk and will likely require outside funding and/or technical partners to help mitigate risks.

The District's Emissions Capture and Control System (ECCS, or Bonnet) is a good example of a Pre-Commercial Pilot Project. In 2018, the District was awarded \$5 million in funding from the California Transportation Commission (CTC) through the Trade Corridor Enhancement Program (TCEP) to reduce emissions from vessels using an (ECCS). An ECCS connects to a vessel's exhaust system while a ship is at-berth and filters specific air pollutants such as diesel particulate matter and nitrogen oxides so that they are not released into the environment. During September of 2019, the District released a Request for Information to industry experts regarding ECCS services. Four firms responded to the RFI providing information on costs, operations, and pollutant reduction. The District will release a Request for Bids to procure ECCS services prior to the end of FY 2020.

IV. Estimated Timeline

Staff is targeting to return to the Board with a Draft MCAS by the end of the year. Assuming the Board concurs with the approach outlined above, the project team will begin updating the Maritime Air Emissions Inventory and exploring technologies and costs in March 2020. The team will begin developing emission reduction scenarios this summer and start identifying potential emission reduction goals in the fall. As the project team is developing the MCAS, District staff will continue to serve on the Portside Community Steering Committee to help prepare the AB 617 CERP. It is expected that information from the District's MCAS will feed into the Portside Community's CERP, and vice versa. The District MCAS and the Portside Community's CERP will be complimentary efforts.

V. Stakeholder Involvement

Extensive stakeholder involvement will continue to be a cornerstone of the MCAS. Throughout this process, the project team will be soliciting feedback from multiple stakeholders. Several different forums will be used to update the stakeholders and to seek their feedback on various concepts, ideas, and approaches. These forums include:

- AB 617 - Portside Community Steering Committee
- Barrio Logan Community Planning Group
- Environmental Advisory Committee
- Maritime Stakeholder Forum
- San Diego Port Tenants Association - Environmental Committee

In addition to the public forums listed above, collaboration will continue with the following agencies and organizations to leverage their knowledge and technical expertise on various emission reduction strategies:

- California Air Resources Board (CARB)
- California Energy Commission (CEC)
- Environmental Health Coalition (EHC)
- The Greenlining Institute (TGI)
- Industrial Environmental Association (IEA)
- San Diego Air Pollution Control District (APCD)
- San Diego Gas and Electric (SDG&E)

General Counsel's Comments:

The Office of the General Counsel reviewed this agenda as presented to it as to form and legality.

Environmental Review:

This informational presentation to the Board does not constitute an "approval" or a "project" under the definitions set forth in California Environmental Quality Act (CEQA) Guidelines Sections 15352 and 15378 because no direct or indirect changes to the physical environment would occur. CEQA requires that the District adequately assess the environmental impacts of its projects and reasonably foreseeable activities that may result from projects prior to the approval of the same. Any project developed as a result of the Board's direction that requires the District or the Board's discretionary

approval resulting in a physical change to the environment will be analyzed in accordance with CEQA prior to such approval. CEQA review may result in the District, in its sole and absolute discretion, requiring implementation of mitigation measures, adopting an alternative, including without limitation, a “no project alternative” or adopting a Statement of Overriding Consideration, if required. The current Board direction in no way limits the exercise of this discretion. Therefore, no further CEQA review is required.

In addition, this Board item complies with Section 87 of the Port Act, which allows for the establishment, improvement, and conduct of a harbor, and for the construction, reconstruction, repair, maintenance, and operation of wharves, docks, piers, slips, quays, and all other works, buildings, facilities, utilities, structures, and appliances incidental, necessary, or convenient, for the promotion and accommodation of commerce and navigation. The Port Act was enacted by the California Legislature and is consistent with the Public Trust Doctrine. Consequently, this presentation is consistent with the Public Trust Doctrine.

Finally, this presentation does not allow for “development,” as defined in Section 30106 of the California Coastal Act, or “new development,” pursuant to Section 1.a. of the District’s Coastal Development Permit (CDP) Regulations because it will not result in, without limitation, a physical change, change in use or increase the intensity of uses. Therefore, issuance of a Coastal Development Permit or exclusion is not required. However, development within the District requires processing under the District’s CDP Regulations. Future development, as defined in Section 30106 of the Coastal Act, will remain subject to its own independent review pursuant to the Districts certified CDP Regulations, PMP, and Chapters 3 and 8 of the Coastal Act. The Board’s direction in no way limits the exercise of the District’s discretion under the District’s CDP Regulations.

Equal Opportunity Program:

Not applicable.

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Attachment(s):

Attachment A: Board of Port Commissioners Resolution No. 2019-084

Attachment B: Overview of California’s Key Air Quality and Greenhouse Gas Regulations

Attachment C: Board of Port Commissioner’s Agenda Item # 2019-0190, June 18, 2019.

- ¹ District staff expects that its existing 2016 Maritime Air Emissions Inventory can provide a strong foundation for much of the inventory work that needs to be done because activity levels were similar in both years. For example, there were 427 vessel calls in 2018 and 420 vessel calls in 2016. Similarly, 2018 cargo throughput was within one-half of one percent (or ½%) of 2016 levels. In 2018 cargo throughput at both cargo terminals was approximately 1.89 million metric tons, whereas it was about 1.90 million metric tons in 2016. Furthermore, there were no substantive regulatory changes that went into effect between 2016 and 2018. The District's refrigerated cargo vessels and passenger vessels exceeded CARB's 70% At-berth Regulation in 2016, prior to the regulation going into effect in January 2017. However, the District's Maritime Air Emissions Inventory will have to be augmented to include emissions associated with the District's stationary maritime industrial uses (e.g., shipyards), because these are stationary sources have not been included in the District's previous maritime air emissions inventories.
- ² Pasha Distribution Services is Pasha Automotive Services' sister company.