Attachment B

Report on the Costs and Financing Associated with the
Seaport Air Quality 2020 and Beyond Plan

SUPPLEMENTAL

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Introduction

On June 13, 2019, the Board of Port Commissioners (Board) approved the Seaport Air Quality 2020 and Beyond Plan (Plan) which provides the planning and policy framework for the Port of Oakland (Port) to continue its efforts to reduce emissions from Seaport operations with an emphasis on diesel particulate matter (DPM) and greenhouse gases (GHG). This Informational Report (Report) is in response to the Board's direction in Resolution No. 19-41 dated June 13, 2019, to Port staff to "submit an Agenda Report to the Board, within 18 months following the date of this Resolution, on costs and financing aspects associated with the Seaport Air Quality 2020 and Beyond Plan, including discussions of grant and incentive funding from outside sources (i.e., California Air Resources Board, Bay Area Air Quality Management District, and the California Energy Commission, etc., and private sector and Port resources."

Implementation of the Plan requires long-term commitment, coordination, and collaboration among all stakeholders and significant financial commitments on the part of the Port, its tenants, and businesses operating in and out of the Seaport. The Plan will be implemented over time as actions are determined to be effective at achieving the Plan's purpose and are determined to be feasible. As actions meet these criteria and are approved by the Board, they will become Implementing Actions (IAs) and funding sources for any associated costs will need to be identified as well. The Plan is to be implemented in three phases: Near-Term Action Plan (NTAP) (2019-2023), Intermediate-Term Phase (2023-2030), and Long-Term Phase (2030-2050).

This Report addresses the financial aspects of the Plan. Funding the Port's obligation under the Near-Term Phase of the Plan through FY 2023 is moving ahead with funding set-aside in the current budget and planned for in future budgets. There are many unknowns and variables relating to implementing the Plan in its entirety and there is less clarity in terms of the costs and timing of action items outlined in the Intermediate-Term and Long-Term Phases of the Plan. This Report provides the framework to approach the financing aspect of Port obligations under the Plan. The first section of this Report discusses incorporating the Port's expenditure obligations under the Plan into the Port's expense and capital budget planning process. Next, the Report takes a closer look at potential funding sources applicable to the Port, and to some extent to Port tenants and truck operators (i.e. grants) as well. Since the start of the Near-Term Phase in 2019, certain action items have incurred costs and required funding. This Report summarizes some of the costs incurred to date to the extent such information is available and provides estimates of how much more additional funding is required through the end of the Near-Term Phase. Lastly, the Report looks at the period beyond the Near-Term Phase and

examines financing aspects of the Plan that require major long-term capital investments located inside and outside the Seaport. Some of these long-term investments, including ZE drayage truck purchases and build-out of charging infrastructure located outside the Seaport, will be the responsibility of other entities and businesses who will need to formulate a funding approach of their own, specific to their individual businesses.

Port's Overall Approach to Funding the Plan for Port obligations

The Port's Finance department (Finance) is responsible for the annual preparation of both an operating and capital budget. Finance takes a pragmatic approach to funding with an understanding that not everything can be built at once. Limited funding and staffing resources constrain how much can be spent or built over a defined period. Understanding the amount of funding needed at a particular time is critical to successful project funding in order to avoid unnecessary financing costs or lost opportunities by planning funding too early or delaying implementation by securing too late. Finance must also balance Port wide spending needs with the need to meet and exceed certain financial targets in order to not jeopardize the long-term financial health of the Port, such as minimum unrestricted cash balances, debt service coverage ratio targets, and limits on the amount of debt.

The Port has a well-established, successful process to fund capital investments and operating expenses. This same process will be used to fund the Port's share of the costs associated with the IAs outlined in the NTAP. Each Port department will be responsible to include in its annual operating budget the departmental needs for the year to fund the annual operating costs associated with Plan implementation. Each department will be subject to a not-to-exceed budget amount and spending and timing will need to be adjusted and prioritized as necessary to stay within the maximum departmental operating budget set by Finance. Funding for capital projects contemplated in the Plan will proceed in accordance with and be subject to the same comprehensive multi-departmental review before projects are added to the Port's five-year capital improvement plan (CIP) where funding sources will be identified, planned, and assigned to specific projects. Project prioritization, regulatory deadlines, funding, and staffing resource availability will dictate the timing and amount funded in each fiscal year.

Typically, large multi-year projects included in the CIP have cost estimates and sound funding plans in place from start to finish. The Plan, in contrast, is a multi-decade program that includes clear, known, near-term projects and less clear, unknown long-term projects. In addition, significant elements of the Plan are outside the Port's control and require actions, including implementation and funding by others. Therefore, the Plan must be funded as IAs are sufficiently developed to identify costs and timing of implementation.

Regardless of the actual cost and timing of when such infrastructure investments are needed, the Port will implement a funding strategy based on the following guiding principles which aim to fund Port obligations under the Plan at the lowest cost possible:

- Have an integrated CIP, combining Plan expenditures with other needed capital investments, developed by Port Staff and provided to Finance for funding consideration;
- Pursue external funding such as grants only to the extent such grants make business sense, do not create undue financial liability, can provide meaningful financial relief and environmental benefits that outweigh the added administrative, compliance, and reporting requirements;
- Consider applying Port revenue sources that are restricted to certain uses where IAs are included in the eligible uses;
- Leverage the Port as a Public utility and use utility rates and cost recovery mechanisms to support the Plan;
- Explore low-cost State of California (State) or federal loan programs in lieu of higher cost Port debt financings; and
- Balance the use of available Port cash and Port debt financing to close remaining funding gaps without overextending or jeopardizing the Port's credit and liquidity position.

Potential Funding Sources for the Plan

Funding the Plan will be a large endeavor not only for the Port but also for Port tenants, truck drivers, truck fleet operators, ocean carriers, tug operators, and other businesses currently operating vehicles or equipment in and out of the Seaport. Some of the costs associated with the Plan will be borne by the Port, with electric infrastructure investments, replacement of Port fleet of vehicles, and staff and consultant expenses comprising the bulk of the Port's Plan expenditures. Other costs such as the cost of converting 6,000 diesel drayage trucks currently operating at the Seaport to either battery-electric or fuel cell trucks will require hundreds of millions if not billions of dollars in private sector investments plus additional capital commitment to fund off-site charging and hydrogen fueling infrastructure to support these ZE drayage trucks.

Presented below are potential funding sources to fund different aspects of the Plan. Most of these funding sources are applicable only to the Port with the exception of grants which may be applicable to both Port tenants and other businesses operating in and out of the Seaport.

A. Grants and Financial Incentives

A number of federal, State, and local grants and other incentive programs are available to fund research and development in new ZE technology, fund pilot programs for testing commercial viability of electric and fuel cell powered vehicles and equipment, lower the cost of, and promote transition to less polluting technology. However, grants and other

incentive programs alone will not be sufficient to fund the conversion of all equipment serving the Seaport to ZE. The Port anticipates the large majority of ZE equipment will be deployed when such equipment becomes cost competitive and the environmental and business forces driving the transition are in alignment. Until then and to the extent funding is available, grants will remain an important early catalyst to drive the transition to a ZE seaport.

Collaboration among the Port, Port tenants, and equipment owners including truck operators will be important to the success of the Plan. To this end, Port staff have focused their efforts on meeting with Port tenants, equipment owners, and manufacturers to develop eligible projects to take advantage of available grants. This partnership has proven successful, bringing a diverse number of grant funded projects to the Seaport. Such efforts will continue as Port staff play a supporting role, facilitating and coordinating with granting agencies, Port tenants, equipment owners, and manufacturers to identify and publicize grant programs and other incentive programs to advance the goals of the Plan. For example, six demonstration projects are currently in progress at the Seaport using grants and incentive programs combined with matching funding commitments on the part of the Port and Port tenants:

- Seven On-road BYD battery-electric trucks being demonstrated at GSC Logistics and SeaLogix
- One Off-road BYD battery-electric yard tractor being demonstrated at GSC Logistics
- Five off-road Orange EV battery-electric yard tractors being demonstrated around the Seaport (Impact Transportation and others)
- Ten On-road Peterbilt-Transpower battery-electric trucks coming to Shippers Transport Express (10 charging stations funded by the Port are currently under construction)
- One battery-electric top handler coming to SSA's Matson Terminal
- Five battery-electric yard tractors coming to SSA's Matson Terminal

While these programs can serve a catalyst role, grants geared toward air quality improvements are typically non-recurring one-time awards -- often with different rules, different application process, different reporting, monitoring, and performance requirements. The lack of standardization makes the entire grant process more costly as each grant, even if coming from the same grantor, requires setting up different procedures and controls for reporting and monitoring performance in order to remain compliant with varying terms and conditions. Overall grant restrictions, minimum requirements that must be met, tracking, and reporting, over a period of years adds to the costs of executing a grant funded project. Changes in a tenant's business over long reporting periods increases the risk the project may not meet minimum requirements and adds the potential risk that the grant might need to be repaid. Grants for mobile equipment can also be challenging because the equipment is mobile and can be relocated due to an operator's business needs or even because they stop operating locally. This can move the benefits out of the region or even the State.

Air quality grants also tend to have very defined, restrictive uses that may not necessarily align with the Seaport's needs. Grant funding is only meaningful and helpful to the extent the grants can be used to further the Plan to improve air quality at the Seaport and in surrounding communities. Grants not related to projects or programs the Port otherwise requires or intends to pursue end up being a drain on Port resources and focus, often for long periods of follow-on ownership, maintenance, tracking, reporting, etc. The optimal role of grants is to fund Port projects within the Plan, freeing up other funding to accelerate other projects.

As shown in the examples listed, grants are available to reduce the cost and promote transition to ZE marine terminal equipment or ZE trucks. The Port does not own these types of assets and therefore these grants are not the types of grants the Port would pursue for itself. The Port dedicates resources to connecting the equipment owners with grants they are eligible for, however, unfortunately, many of these grants are structured in such a way whereby only a public agency can actually receive the grant. These types of grants are extremely cumbersome and difficult to manage and ensure compliance and thus less effective. The Port will only participate in grants of this nature when the risks to the Port can be mitigated and the size and benefit to the Plan of the grant outweighs the required dedication of additional resources.

Given both the important role grants can serve as well as the challenges and risks they can create, the following guidelines help determine when to pursue grant funding for the Plan:

- If Port is to own the asset to be created with grants, then such asset must be consistent with Seaport goals and Plan IAs with the Port able to cover long-term operations and maintenance costs within the operating budget.
- The project a grant would fund should be contemplated within the near-term (ideally included in the Port CIP) such that staff resources are prioritized for the project and higher priority projects are not delayed by reallocating staff to a lower priority grant funded project.
- Sub-grant arrangements where the Port must be the grant holder but does not own or control the use of the asset must be evaluated on a case-by-case basis and limited to Port tenants willing to assume the risk for non-compliance.
- Grants should provide meaningful financial relief that is not outweighed by onerous reporting and compliance requirements.

Presented below is a list of grant programs broken down by grant sponsors or administrators. The Port and its tenants have pursued some of these grants and have received funding in the past. Many of the grant programs listed below are geared towards replacement of drayage trucks, tugboats, CHE and other marine terminal equipment owned by others (not the Port), and therefore are not the types of grant programs to which the Port is able to participate or apply for its own purposes. These grant programs also have funding caps that oftentimes do not rise to the level that will provide meaningful financial relief to the Port and therefore may not be worth pursuing. However, these grants

may provide substantial financial relief to stakeholders who own equipment, such as trucking companies and marine terminal operators.

California Air Resource Board (CARB)

Carl Moyer Voucher Incentive Program. Approximately $60 million in funding is made available Statewide annually and vouchers are made available on a first come, first-served basis to fleet operators who own 10 or fewer diesel trucks operating 75% of the time in California, have had a California-based registration for the past two years, with a gross weight rating greater than 14,000 lbs. Funding is in the order of $20,000 or less to replace diesel trucks with year 2010 or newer models. Old diesel trucks must be destroyed.

Hybrid & Zero-Emission Truck and Bus Voucher Incentive Project (HVIP). HVIP offers incentives for eligible zero-emission trucks and buses, in particular, vehicles with engines or motors that meet the optional low-NOx engine standards in California and vehicles using eligible electric Power Take-Off (ePTO) technologies. ZE such as hydrogen fuel cells and battery electric-powered vehicle technologies are eligible for HVIP funding. About $142 million of funding was made available in FY 2020; all of which has been spoken for at this time. HVIP anticipates accepting new voucher requests beginning in early 2021 when FY 2021 funding becomes available.

Carl Moyer Memorial Air Quality Standards Attainment Program. Funds are available to fleet and truck owners operating vehicles with gross vehicle rating greater than 14,000 lbs., registered in California for a minimum of two years, and has operated at least 51 percent of the time in California. Approximately $60 million in grant funding is made available each year across the State.

Volkswagen Environmental Mitigation Trust. Funding for up to $90 million in ZE class 8 freight and port drayage trucks, and up to $70 million for ZE freight and marine projects including, heavy-lift forklifts and port CHE, ocean-going vessel shore power, and ZE repowers for ferries, tugboats, and towboats. $27 million of the $90 million available for drayage trucks has been subscribed for to date but applications are still being accepted in the event additional funds become available. Up to $35 million in funding for ZE freight and marine projects is scheduled to open in the first quarter of calendar year 2021 with the remaining $35 million to be made available in mid-2022.

Bay Area Air Quality Management District (BAAQMD)

Charge! Program. Provides grant funding to offset the cost of purchasing and installing electric vehicle charging stations in public areas located within BAAQMD's jurisdiction.

Heavy-Duty Zero-Emissions Vehicle (ZEV) Program. Provides funding to reimburse a portion of the difference between the cost of a ZE vehicle and a diesel fueled vehicle.

Carl Moyer Program. Funding available to upgrade or replace off-road diesel equipment, diesel-powered marine engines, shore power and emissions capture technologies, and on-road heavy duty vehicles.

Proposition 1B Goods Movement Emissions Reduction Program. Funding available to promote the upgrade and replacement of trucks, locomotives, CHE, and shore power equipment for the purpose of reducing pollution emissions and health risk resulting from the movement of freight to all parts of California. $20 million has been allocated to the Air District Year 5 program. Applications are due by January 15, 2021.

West Oakland Zero Emission Grant Program. Grant funding available to pay for a portion of the costs of purchasing new on- and off-road ZE vehicles, charging infrastructure that will be operated and installed within the West Oakland surrounding areas. The latest round of applications was due by February 3, 2020; additional funding may be available in the future.

B. California Pollution Control Financing Authority California Capital Access Program

The California Pollution Control Financing Authority (CPCFA) administers the California Capital Access Program (CalCAP) to foster private-public partnership to make California economically prosperous and environmentally clean. Working with State agencies such as CARB, programs are designed to encourage financial institutions to make loans available to small businesses and to provide funding to accelerate the construction of necessary charging infrastructure for ZE vehicles. Two major CalCAP programs are:

- Electric Vehicle Charging Station (EVCS) Financing Program. Loans can be used for the design, development, purchase, and installation of electric vehicle charging stations at small business locations in California. Maximum loan amount is $500,000 per qualified borrower, and businesses must apply at a participating financial institution for a loan. Borrower must be a small business with 1,000 or fewer employees and the EVCS installation must be located in California.

- Truck Loan Assistance Program. Provides financial assistance to qualified small-business truckers who fall below conventional lending criteria and are unable to qualify for traditional financing for cleaner trucks. Eligible truck purchases include diesel trucks with 2010 and newer model years, trucks powered with compressed natural gas (CNG), liquefied natural gas (LNG), and ZE trucks.

C. California Energy Commission (CEC)

The California Energy Commission through its Clean Transportation Program invests up to $100 million a year in projects designed to support the early adoption of clean transportation technology powered by alternative and renewable fuels. Funding is available through competitive grants, revolving loans, loan guarantees, and loans.

Legislation authorizing this program ends in 2023 absent any new legislation to extend the program. Major areas of CEC focus include the following:

- Building electric charging infrastructure for electric vehicles;
- Building refueling infrastructure for hydrogen vehicles;
- Building refueling infrastructure for natural gas vehicles; and
- Investments in projects to accelerate advancements and adoption of medium- and heavy-duty vehicle technologies to help California's seaports transition to a ZE seaport.

D. Diesel Emissions Reduction Act (DERA)

Administered by the United States Environmental Protection Agency, the Diesel Emissions Reduction Act (DERA) National Grants Program provides funding for projects nationwide that can achieve significant reduction in diesel emissions and exposure. Eligible uses include replacement costs for Class 5 to Class 8 heavy-duty trucks, marine engines, and equipment and vehicles used in handling of cargo at seaports and airports. For federal fiscal year 2020, $44 million in total funding was allocated across 37 recipients with the largest amount ($3.6 million) allocated to a single California applicant.

E. Low Carbon Fuel Standard (LCFS) Credits

LCFS credits can be generated in a number of ways including using and operating vehicles and equipment powered by ethanol, biodiesel, renewable diesel, CNG, LNG, and electricity for electric vehicles. These credits can in turn be sold to entities who are unable to meet California strict carbon intensity (CI) standards and must therefore buy LCFS credits to remain compliant. At its last auction on August 13, 2020, the Port raised $4.4 million in LCFS revenues through the sale of 23,729 LCFS credits generated over five quarters. Proceeds from the sale of LCFS credits are restricted and may only be used to fund expenses or projects that promote or result in reduction in greenhouse gas (GHG) emissions. The Port is expected to generate close to $3 million in credits annually in the near-term.

F. Utilities Rates and Charges

Electricity rates incorporate not only the cost of purchasing and delivering electricity but also the cost of capital investments funded either with Port cash or financed with debt, including EV related projects. As a public utility the Port has the opportunity to leverage utility rate setting and revenues to recover some costs associated with the Plan. The Port is in the process of evaluating or piloting several rate related programs:

- Creation of an Electric Vehicle Charging rate set to recover energy costs, regulatory requirements, and unique infrastructure required to charge vehicles (the

Port already has a Shore Power rate to recover the cost of capital, energy, transmission, distribution, Vessel Commissioning, Maintenance, and depreciation).

- Creation of a "Green" rate allowing Port tenants to choose a higher percentage of clean power.

Port Utilities is also currently developing/running three pilot EV charging programs:

- Solar + Storage EV Charging for Cars. A Port owned system allowing transient users to charge their EV with a rate set high enough to fund the equipment and provide additional lease revenue to the applicable revenue division.

- Solar + Storage + Grid for Charging Heavy Duty Vehicles. The system is designed to optimize existing and available Port infrastructure. Tenants can either buy a pre-designed charging system themselves, or through a financed program, pay a higher EV charging rate that funds the infrastructure costs.

- Predicative EV charging being demonstrated to create dynamic price charging structures, and better understand driver patterns in relation to the electric infrastructure required to charge.

In addition to rates, there are several other existing programs which could support some elements of the Plan:

- Cap and Trade revenues acquired by the allocation of credits annually from CARB and sold by Port Utilities in quarterly auctions.

- Energy Incentives are funded by the Port Utilities collection (2.85% of total revenue) as required by Assembly Bill 1890. Relating to EVs, these funds are currently used to incentivize the installation of EV chargers.

- Capacity Charges. This money can be spent to fund methods to expand and optimize infrastructure in support of EVs.

G. Maritime Operating Revenues

Each revenue division at the Port must be self-supporting. Revenues collected from operations at the Seaport must be in an amount sufficient to pay Maritime division's allocable share of Port operations and maintenance expenses and bond debt service payments. Any remaining funds available after debt service (Cash Available for Capital) can be used to fund capital projects at the Seaport. Taking necessary steps to grow Cash Available for Capital in future years will make more funds available for future capital expenditures including expenditures related to the Plan. In the last five years, the Port's Maritime division has generated excess Cash Available for Capital ranging from $22.7 million in FY 2016 to $56.4 million in FY 2019 inclusive of Utilities revenues discussed above. Contributing to the increase in excess Cash Available for Capital is the incremental

decrease of Maritime annual bond debt service payments, deferral in maintenance costs, and improvements in the Maritime division's operating margins which have increased steadily from a low of 28% in FY 2016 to a high of 32% in FY 2019.
Major deferrals in capital improvements at the Seaport along with deferrals of maintenance expenses over the years need to be addressed at this point to, at a minimum, maintain and hopefully grow Maritime revenues. Given limited available resources, funding for the Plan will need to be evaluated and prioritized along with other Maritime capital expenditures to ensure the investments necessary to transition to a ZE seaport are not pursued in ways that jeopardize Maritime revenues because it is those very revenues that allow the Port to invest in initiatives that provide environmental and related benefits. Suggestions at a recent Plan Task Force meeting have been made regarding offering rebates or incentives to existing Port tenant leases to supplement grants and help tenants meet portions of the cost of transitioning to ZE technology. Such proposals are problematic from the Port's perspective as Net Revenues are reduced by the amount of rebates provided which makes it more financially challenging for the Port to fund its own obligations under the Plan as less funds are available for such purposes.

H. Existing Unrestricted Cash Balance

The Port has the option to draw from its unrestricted cash balance to fund capital projects including Plan related projects. Over the last ten years, the Port has been able to steadily increase its unrestricted cash balance to $410.9 million, excluding Board reserves, as of September 30, 2020. Driving the increase in cash balance are three main factors: improved operating margins, lower debt service payments due to past refunding transactions, and deferred capital expenditures.

While the Port has managed to increase its unrestricted cash balance, not all is available for capital expenditures including for the Plan. The Port must maintain a minimum cash balance for liquidity purposes. Current Port policy is to maintain a minimum of $150 million in unrestricted cash balance at all times to provide liquidity in the event Port operations are disrupted temporarily and the Port must continue to cover operations and maintenance expenses, pay bond debt service or pay for emergency capital repairs. After the minimum cash balance, a total of $260.9 million in unrestricted cash is allocated to all three Port business lines (Airport, Commercial Real Estate, and Seaport) to fund capital expenditures.

I. Climate Catalyst Revolving Loan Fund

The initial State of California's FY 2020-21 budget proposal called for the implementation of a $1 billion Climate Catalyst Revolving Loan Fund ("SRF") to lend money to public and private entities for climate-related projects that (a) have low financial risk, (b) provide climate benefits, and (c) have problem getting private financing. The original plan was to capitalize the loan program initially with $250 million in funds in FY 2021 followed by an additional $750 million in FY 2024. Due to impacts of COVID-19 to State of California finances, the final adopted State budget did not include the initial $250 million seed funding in FY 2021 to establish the revolving loan fund.

Revolving loan fund programs at the State typically have a borrowing term of 20+ years and carry very low interest costs that are typically more attractive than borrowing rates the Port can achieve on its own. Interest rates for the loan are typically set at 50% of the True Interest Cost (i.e. cost of borrowing) of the most recent State General Obligation bond sale. As of October 21, 2020, such rate is 0.90%. In contrast, the Port's cost of capital in the debt market is close to four times more costly on a 20+ year bond financing. One potential drawback of SRF loan is that it typically contains onerous loan security provisions that may be inconsistent with security provisions provided to existing Port bondholders and may need to be negotiated with the State which is one of many factors the Port must consider when evaluating the merits of future SRF loan programs. Port staff will monitor developments at the State in the event seed funding is made available to kick-start the Climate Catalyst SRF loan program and will evaluate the merits of using a State sponsored revolving loan in lieu of higher cost Port issued revenue bonds to fund portions of the Port's obligations under the Plan.

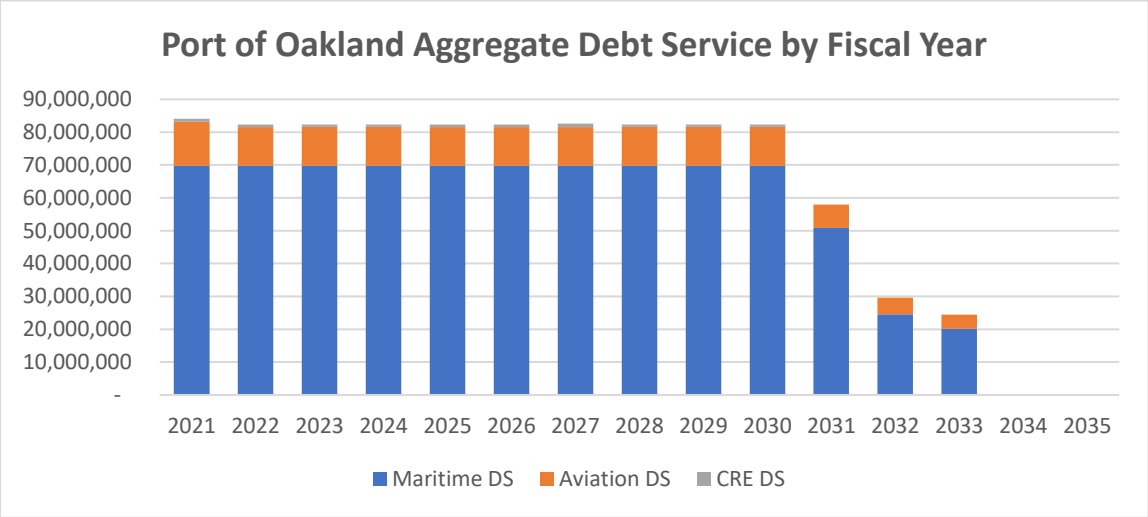
J. Commercial Paper Notes/Revenue Bonds (Debt Financing)

Debt financing may constitute a major source of funding to finance the Port's share of the overall cost of the Plan, but only to the extent additional bonding capacity at the Maritime Division can be made available through improved operating margins. Port cash has been the primary funding source for Maritime capital expenditures in the last decade. But this may change in the next ten to thirteen years.

Most of the Port's bonding capacity has been locked-up due to the large capital investments made in the early 2000s in connection with the Port's Vision 2000 masterplan. As two-thirds of the debt has been repaid, the Port is approaching a milestone where it will once again have hundreds of millions in additional bonding capacity, starting as early as FY 2028 or as late as FY 2031, to debt finance future capital expenditures at the Seaport, Airport and in the commercial real estate area. The Port must be strategic about how it uses its future bonding capacity and must balance the different needs of each of its three revenue divisions. Large amounts of deferred maintenance and major capital investments at the Airport and Seaport have been put on hold for many years. These are capital investments the Port must pursue to simply maintain the current level of revenues. Given the critical nature of these investments, it is reasonable to expect that some of the bonding capacity discussed earlier will be used to fund these critical investments. Hence, the amount available for the Plan is limited, and therefore proper planning is needed to be able to incorporate Plan expenditures into the Port's long-term capital planning strategy.

An additional consideration is that not all projects in the Plan can be debt financed with tax-exempt bonds. The ideal candidates for debt financing are capital projects with very long useful lives of 20+ years. Spending on upgrades or installation of new electrical infrastructure including substations, shore power investments, and solar panel upgrades, are likely good candidates for debt financing. Purchasing on-road and off-road electric vehicles are not good candidates as these types of assets will likely reach the end of their

useful lives long before the bonds are fully repaid over the typical 30-year amortization period.



Costs and Potential Funding Plans

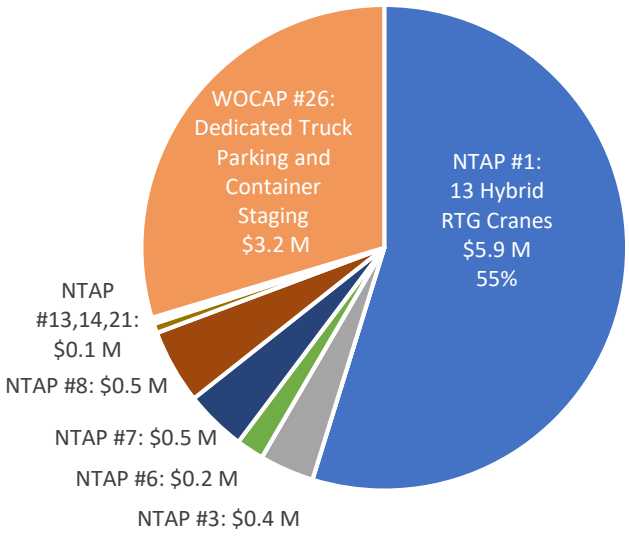
As mentioned earlier, the exact cost to fully transition to a ZE Seaport is not yet known but the price tag is expected to be significant. Converting diesel powered drayage trucks to ZE equivalents alone is likely to cost in the hundreds of millions if not billions of dollars and such costs will be borne primarily by truck owners and fleet operators. Port funding will be required 1) in support of increased electrical distribution at the Seaport driven by the shift to ZE battery technology, 2) as part of the regular asset replacement cycle to address aging electric infrastructure, such as substations, as these assets reach the end of their useful lives, and 3) to accommodate future developments in the Seaport. Major capital investments to increase electrical peak capacity at the Seaport are not expected to be required until after FY 2035

Near-Term Action Plan

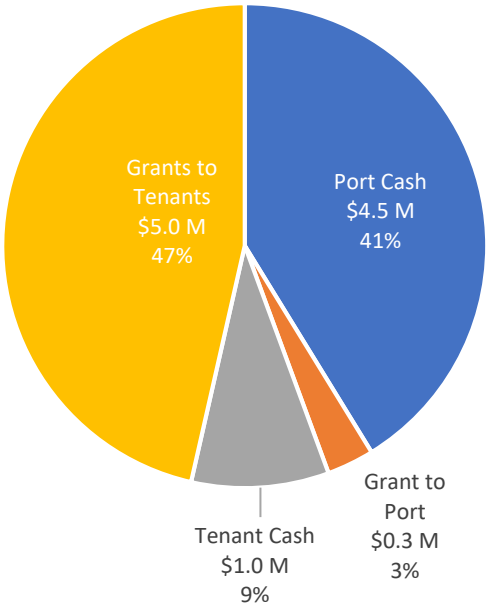
Many of the NTAP IAs as revised on July 23, 2020, consists of 37 action items plus two (2) new actions items suggested by the West Oakland Community Action Plan (“WOCAP”) and agreed by the Port to (a) upgrade tug engines, and (b) establish dedicated truck parking at Port facilities. Of these 39 action items, some require funding on the part of the Port or its tenants while other action items call for additional planning and staff monitoring of progress on aspects of the Plan and primarily involve staff time requiring prioritization but without the need for additional funding. Through the end of the NTAP, IAs are expected to cost at least $54.5 million of which $39.2 million is expected to be funded with Port cash and LCFS credits, $14.4 million to be funded with grants, and at least $1.0 million with Port Tenant cash. Included in the $54.5 million estimate are $15 million of utility infrastructure capital expenditures that are related to the Plan in the sense these

are utility related expenditures the Port plans to fund to upgrade its electrical infrastructure even in the absence of the Plan (NTAP Action Item #9). To date, $10.8 million has been spent thus far on the initial phase of the Plan based on information the Port was able to collect. The Port's estimated share of the cost to date is $4.8 million and Port tenant's share is roughly $6.0 million inclusive of grant funding received. These numbers are not a complete breakdown of the costs due to the challenges of collecting tenant funding information. Funding for the Port's obligation under the Plan through the end of the NTAP is expected to be included in future budgets to be approved by the Board on an annual basis.

USES-TO-DATE ($10.8 million)



SOURCES-TO-DATE ($10.8 million)



For a detailed summary of expenditure and estimated cost information for each NTAP action please see Exhibit A to this Report.

Intermediate and Long-Term Action Plans: Considerations

The following strategies are anticipated as part of the Intermediate- or Long-term phases of Plan implementation. Several of these elements have begun and have costs incurred in the NTAP but will continue through subsequent phases. Precise costs and timing of implementation are currently unknown.

Replacement of Port-Owned Vehicles

The Port has already begun replacing its fleet as new technology is available for various types of equipment. Each year the Port anticipates phasing in additional ZE vehicles, ultimately replacing the existing fleet of 228 gasoline or diesel-powered vehicles with ZE vehicle alternatives as well as continuing to install related charging and fueling infrastructure.

Upgrade Seaport's Electrical Infrastructure

Electrical infrastructure investments to support ZE equipment and operations will include existing asset renewal and rehabilitation, new assets to ensure distribution to needed locations using existing excess capacity and to increase on site generation and resiliency. Long-term (post 2035) additional increases in overall Seaport electrical capacity may be needed depending on the technology deployment and usage in the future.

Drayage Trucks and Off-Site Charging Stations

The cost of replacing approximately 6,000 diesel drayage trucks and funding necessary charging/fueling infrastructure, including infrastructure at remote locations where these trucks travel to will constitute the single, largest cost component of the Plan. These are costs that are likely to be borne by independent drayage truck owners and fleet owners of all sizes. As indicated in the Port's Zero-Emissions Drayage Truck Feasibility Study dated November 2019, a standard diesel-powered drayage truck costs $125,000 new. In the used truck market, one can be purchased for $30,000 to $80,000. A brand new, fully electric truck including charging station can cost approximately $470,000.

Summary

The Seaport Air Quality 2020 and Beyond Plan is an ambitious plan with a bold vision: transform the Seaport into a zero-emissions seaport. This transformation will take many years and occur in phases. The costs across all strategies (i.e. equipment, fuel, infrastructure, etc.) are likely to be substantial with the greatest costs related to the transition of Port-serving drayage trucks to ZE trucks. It is foreseeable that the Port's share of these costs will focus on electrical infrastructure upgrades including on areas currently leased by Port tenants. Annual funding for the Near-Term Action Plan Phase (2019-2023) has been incorporated into the FY 2021 Operating Budget and will be evaluated annually for incorporation in future budgets for Board approval. The same

methodical approach to funding the Port's operating expenses and capital improvement plan will be used to fund the 2020 and Beyond Plan. The Port will incorporate the six guiding principles of funding described earlier and will adapt and remain flexible as circumstances warrant. Grants will be pursued as a source of financial enhancement and opportunity, with consideration given to available staff resources and grant restrictions and compliance requirements. Collaboration, consultation and cooperation with Port tenants, regulatory agencies and other stakeholders, including the West Oakland community, will remain a top priority. The Port is fully aware that the goal of a zero-emissions Seaport is ambitious and requires the sustained commitment and participation of all stakeholders.

References

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California Pollution Control Financing Authority (CPCFA) website: Available at: https://www.treasurer.ca.gov/cpcfa/calcap/evcs/summary.asp

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Exhibit A

Detailed NTAP expenditures and funding

NTAP #1: 13 Hybrid-Electric Rubber-Tired Gantry (RTG) Cranes at OICT. 13 RTG cranes have been retrofitted from diesel to hybrid-electric and are fully operational at Oakland International Container Terminal (OICT), the Port's largest container terminal. The final RTG retrofit was completed June 3, 2020. The Port hired a consultant to prepare the grant application for the OICT terminal operator, Stevedoring Services of America (SSA). The BAAQMD awarded SSAT a Carl Moyer grant to cover 85% of total cost, about $5.0 million. SSAT was responsible for the remaining 15%, roughly $0.9 million. Operation of the hybrid RTG cranes reduces diesel consumption from about 10-12 gallons/hour to about 0.5 gallons/hour resulting in reduced operational costs, a 95% reduction in diesel particulate matter (DPM) emissions and a 99% reduction in NOx emissions.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
--	--	--	$5.0M	$0.9M	$5.9M

NTAP #2: 90% Shore Power Use. The installation of shore power pre-dates the Plan and has over the years contributed to a significant decrease in DPM emissions at the Seaport. To date, the Port's share to construct the shore power system is $56 million in construction costs, of which the Port has received $29 million in grant funding to offset its overall cost. The remainder of the Port's share of the total cost has been funded with Port cash. Port tenants' contribution to the program is estimated at $10 million to install outlets at APL and OHT. Grant funding paid for a portion of the tenants' costs. Going forward, approximately $7.1 million in Port cash funded additional expenditures are projected at the Seaport to install additional shore power outlets (SPOs) to increase the average percentage plug-in rate of about 76% (average plug-in rate for the three-year period ending 2019) to the desired 90% or above level. Particular attention is required at Berths 55 and 59 which have lower plug-in rates partially due to crowding and existing outlets not being in the correct place. Furthermore, retrofitting of cargo vessels so that they can plug in to the shore power outlets is also an important piece of the puzzle. It generally costs about $1.0 million to retrofit a vessel. Of the 1,395 containership calls at the Port in CY 2019, 234 (17%) of the calls were by ships that had not been retrofitted for one reason or another. The Port will continue to encourage ocean carriers to retrofit their fleet of vessels, promote cost savings of plugging in to the Port's shore power infrastructure while at the same time making the appropriate investments at the Seaport to make it possible for retrofitted cargo and non-cargo vessels to plug-in to the Port's electrical shore power infrastructure.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
$7.1M	--	--	--	--	$7.1M

NTAP #3-5: 10 Electric Class 8 Trucks plus Charging Infrastructure at Shippers Transport Express (STE).

As part of a statewide effort pilot project to demonstrate zero-emissions trucks and equipment, STE will be testing ten Peterbilt/Transpower battery-electric drayage trucks beginning in 2021. The Port committed to fund, design, and construct the electrical charging infrastructure at STE for the zero-emissions trucks. Construction is currently underway with expected completion in early 2021. Separately, Matson Terminal (Berths 60-63) will be testing five electric yard tractors and one battery-electric top-pick in 2021, and the terminal operator is currently designing the charging infrastructure.

To support the project, the Port provided funding to match CARB's Zero- and Near-Zero Emissions Freight Facilities (ZANZEFF) grants STE received for the trucks. The Port committed to a minimum grant match contribution of $1.25 million, and the Board of Port Commissioners authorized a budget of up to $2.0 million to construct the charging infrastructure. The five-year CIP currently reflects $1.7 million in charging infrastructure investments. STE utilized approximately $4.7 million in ZANZEFF grant funding to purchase the ten electric drayage trucks, as well as $4.3 million in ZANZEFF grant funding for 5 electric yard handlers and 1 electric top pick handler at the Matson Terminal (Berths 60-63) with charging infrastructure included.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
$1.7M	--	--	$9.0M	--	$10.7M

NTAP #6-8: Port Fleet Electrification

The Port has purchased one electric passenger van, four electric forklifts, and two electric work trucks, and has installed appropriate charging infrastructure for each. The cost for the vehicles and chargers totaled about $1.2 million. The Port paid $835,000 and $340,000 was reimbursed as part of BAAQMD's rebate program.

Although cost-cutting measures have delayed previously planned electric purchases in FY2021. The Port will continue to purchase electric vehicles for the Port fleet as opportunities arise. Replacing aging equipment with ZE equipment will further the Port's efforts to reduce emissions from seaport operations and will meet CARB's requirement under the "Advanced Clean Fleet Regulation", which is currently in development.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
$0.8M	--	--	$0.3M	--	$1.2M

NTAP #9: Replace Electrical Infrastructure Beyond its Serviceable Life.

Implementing this action item is planned for the years 2021-2023 and is expected to be funded with Port cash.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
14.9M	--	--	--	--	$14.9M

NTAP #10: Infrastructure: Capacity and Reliability

Port staff continue to monitor the conditions of the Seaport's electrical grid to determine which specific actions might be needed to increase its reliability and capacity. On July 23, 2020, Port staff presented an update on current projects underway, including (1) 59% carbon free energy in 2019 including 39% renewable and 20% large hydroelectric energy (well above 30% state requirement); (2) Study of solar+storage+EV chargers for construction; (3) EV load module installed and collecting data; and (4) Predictive EV charging installed and collecting data.

NTAP #11, 12: Install Charging Equipment

Charging infrastructure has been installed at the Port's Harbor Facilities and at Port tenant Impact Transportation and is currently being installed at STE. In addition, the Port's CIP includes $4.9 million in capital expenditures to install charging stations at the Roundhouse.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
4.9M	--	--	--	--	$4.9M

NTAP #13, 14: Phase I and II BYD ("Build Your Dreams") Drayage Truck Demonstration

Port tenant GSC Logistics is currently operating three Build Your Dream (BYD) electric drayage trucks and one electric yard tractor. The trucks were free to the tenant; GSC Logistics paid $67,000 for the chargers and received an additional energy incentive from Port Utilities. Port tenant Sea Logix is currently operating four BYD electric road trucks, which were provided for free per the terms of BYD's grant. SeaLogix paid $23,000 to install the chargers. This collaboration meets the Port's goals to build and strengthen partnerships among the Port, Port tenants, equipment manufacturers, equipment owners and operators.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
--	--	--	--	$0.09M	$0.09M

NTAP #15: Marine Power Capacity Study for Terminal Electrification

Pursuant to Port Resolution No. 19-41 (June 13, 2019), Port staff presented an update on Maritime electrical power and related infrastructure planning to the Board at its December 12, 2019, meeting. Port operating budget is the source of funding for this action item.

NTAP #16, 17: Future Infrastructure Needs to Support Zero-Emissions Port Fleet

Port staff are tracking future tenant and Port needs for new charging infrastructure; these efforts are on-going. Costs and funding sources will be analyzed by Port staff once new charging infrastructure needs are identified.

NTAP #18: Electric Infrastructure Guide for Port Tenants

The Port's "EV Charging Station Permit Application" can be found on the Port's website. There is a pre-application process to access the viability of planned charging stations, such as availability of adequate power and the condition of equipment to be part of the installation. All plans for charging stations are then reviewed and approved by Port Engineering and other Port staff as deemed necessary by the Port Permit Coordinator. This effort requires Port labor by the Wharfinger, Permit Coordinator, Utility Manager and other staff. This is part of the plan's strategy to continue emissions reduction programs and projects. Port operating budget is the source of funding for this action item.

NTAP #19: Renewable Diesel for Marine Equipment

Port staff will investigate the use of renewable diesel for land-based and marine equipment. The study is expected to commence in 2021 and is expected to be funded from Port operating budget.

NTAP #20: Renewable Diesel for Port Fleet

The Port switched to renewable diesel for the Port's fleet in June 2020. Renewable diesel is typically $.10 more per gallon over conventional diesel but provides a 60-80% reduction in greenhouse gases. For its own fleet, the Port uses approximately 23,029 gallons of diesel fuel per year. Switching to renewable diesel will increase the Port's total annual diesel cost by $2,303.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
$0.002M	--	--	--	--	$0.002M

NTAP #21: Evaluate Vessel Speed Reduction (VSR) Program

Port staff completed an initial technical analysis in early 2019 as part of Plan development. The Port retained a professional services consultant to analyze the potential emission reductions from a VSR program; the cost for the sub-task was about $13,200. In August 2020, the Port hired AECOM to research various performance incentive programs for

ocean-going vessels and locomotives; the cost for the performance incentives study was about $9,800. Port operating budget funded both studies.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
$0.02M	--	--	--	--	$0.02M

NTAP #22-31: Monitoring and Tracking

Port staff have been actively tracking the hybrid RTG project progress, monitoring shore power usage, and tracking the San Pedro Bay Ports' Clean Air Action Plan, , Zero Emission Truck Feasibility Studies and Truck Rate Study as well as participating in 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.

No funding is required for this action item other than Port staff hours. Port staff resources average about 20-40 hours per month.

NTAP #32: Encourage Railroads to Use Cleanest Possible Equipment in Oakland

The Port completed an analysis of performance incentive programs for locomotives in November 2020. The cost of the analysis was about $9,800 (see NTAP #21 above) and included performance incentive programs for ocean-going vessels.

NTAP #33-35: Outreach to Truckers

Port staff actively participate in virtual Trucker Work Group and Harbor Trucking Association meetings. Prior to the COVID-19 pandemic, Port staff hosted weekly Office Hours for truckers.

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). Port staff continue to use Co-Chairs and Task Force meetings for collaborative problem-solving, sharing information, providing updates, and receiving input from stakeholders.

No funding is required for this action item other than Port staff hours.

NTAP #36: Implement Workforce Development Plan

The Port's Department of Social Responsibility staff continue to implement the Plan's Workforce Development Plan. This Workforce Development Plan positions the Port to expand on its years of community and education commitment to identify, analyze, and assess potential workforce needs in collaboration with community stakeholders, including training partners and industry leaders.

NTAP #37: Pursue Low Carbon Fuel Standard ("LCFS") Credits

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.

Participation in CARB's LCFS program can earn credits from providing electricity for shore power and subsequently sell those credits in the LCFS market. Money earned in the program must be spent making the transportation system less carbon intensive and can be used to support more electrification.

At its last auction on August 13, 2020, the Port raised $4.4 million in LCFS revenues through the sale of 23,729 LCFS credits generated over five quarters. Proceeds from the sale of LCFS credits are restricted and may only be used to fund expenses or projects that promote or result in reduction in greenhouse gas ("GHG") emissions.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
--	--	$3M/year	--	--	$3M/year

WOCAP #50: Use Air District Funding to Upgrade Tugs and Barges.

On July 23, 2020, the Board approved the Port staff recommendation to include measures from the WOCAP in the NTAP. According to the West Oakland Community Action Plan approved by CARB on December 5, 2019, tugs are the greatest Port-related source of excess cancer risk. With BAAQMD funding, tugs can be repowered to cleaner engines using direct BAAQMD Carl Moyer program grants to the equipment owners. A report prepared for CARB from the California State University Maritime Academy dated September 30, 2019, estimates the cost of a main engine repower for ship assist tugs to be roughly $2.8 million per tug including capital and installation costs. For a push tug main engine repower, the estimated cost is approximately $1.0 million. Port does not have an estimate of the cost of upgrading specific tugs and barges currently operating at the Seaport and does not have information regarding the amount of grant incentives to be made available annually for such purposes.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
--	--	--	n/a	n/a	n/a

WOCAP #26: Establish Dedicated Truck Parking and Container Staging in Logistics Area.

Truck parking is an on-going Port cost that ranges between 40% and 60% of gross revenue generated by the operation. In FY 2020, greater than 50 acres of truck parking area were provided for most of the year, and the Port spent approximately $3.2 million in operating costs funded from gross revenues generated in the truck parking area.

Port Cash	Port Debt	Port LCFS	Grants	Tenant Cash	Total
$3.2M/year	--	--	--	--	$3.2M/year