

PROJECT BRIEFING MEMO

Port of Tacoma Commission



Item No: 10A
Meeting Date: 4/26/24

DATE: April 18, 2024
TO: Port of Tacoma Commission
FROM: Eric Johnson, Executive Director
Sponsor: Jason Jordan, Director, Environmental & Planning Services
Project Manager: Nicola Graham, Project Manager I, AQSP Environmental
SUBJECT: Department of Ecology VW Grant Funding Electric Yard Truck in Port Owned Fleet

A. BRIEFING PURPOSE

This briefing is to provide the Commission with information on the state grant the Port has been awarded by the Department of Ecology to purchase the first piece of Port-owned electric cargo-handling equipment and mobile charger.

Strategic Plan Initiative: EL-2 Reduce the air and climate pollution generated by Port and tenant activities while protecting their operations from the impacts of climate change.

B. SYNOPSIS

The Port of Tacoma has been awarded \$244,318 in state Volkswagen settlement funding through a competitive grant program at Department of Ecology. Using this grant, the port will purchase one new battery-electric, zero emission terminal yard truck and mobile charging unit. The yard truck will move containers and cargo predominantly at Terminal 7 and would replace one existing Tier 0 diesel yard truck which will be scrapped. This will be the first deployment of zero emission equipment in the Port-owned fleet, will help meet the goals of the Northwest Ports Clean Air Strategy, and act as a demonstration to Port tenants of zero-emission cargo-handling equipment. The Port will provide match funding of \$105,681.

C. BACKGROUND

The Port of Tacoma applied to the state Department of Ecology's competitive VW funding grant program in October 2023. The state received \$141 million from Volkswagen to settle violations of the state and federal Clean Air Acts in 2017 and has been administering funds for projects that replace or repower eligible vehicles, vessels, and equipment with new less-polluting diesel engines, alternate fueled (compressed natural gas, propane, or hybrid) or all-electric engines, and developing charging infrastructure for electric vehicles. Projects funded by VW funding include electrification of Washington State Ferries' ferries, electric school buses and contributions to the NWSA Clean Truck Fund and Husky shorepower installation.

Using VW funding, the Port will purchase one battery electric yard truck, replacing a 1991 Tier 0 diesel truck which will be scrapped. This is one third of the yard truck fleet owned by the Port and will be based at Terminal 7, moving containers and cargo. The Port will also purchase a mobile charging unit, which will avoid significant and disruptive engineering work (trenching, electrical upgrades), reduce overall project cost, and provide flexibility for use of the equipment at different port facilities.

Deploying the first electric cargo handling equipment within the Port of Tacoma's own cargo-handling equipment fleet is a transformational opportunity. Switching from diesel to electric equipment eliminates air pollution impacts and is in alignment with the IPCC's pathways to limit global warming to 1.5°C, especially in regions like the PNW where electricity is extremely low carbon. Burning diesel fuel emits approximately 250g CO₂ per kWh, while the emission factor for electricity delivered by Tacoma Power is 1.5g CO₂e per kWh, over 99% lower than diesel. The Port updated the Northwest Ports Clean Air Strategy in 2020 to eliminate maritime emissions by 2050, including the entire cargo-handling equipment fleet. The Port has also accelerated the Port's own Scope 1 and 2 GHG emission targets to 2040. This project is an important first step in meeting that vision.

In Tacoma, diesel exhaust presents the greatest public health risk of all toxic air pollutants, consistent with other urban areas. The Puget Sound Clean Air Agency estimates that 70% of cancer risk in the Puget Sound area from air toxics stems specifically from highly toxic diesel fine particles. Goods movement operations like port terminals depend on diesel equipment, meaning that communities near these facilities are disproportionately impacted by diesel pollution. This project will reduce the diesel pollution load on communities near the Port, including those bearing a disproportionate pollution load and environmental justice concerns.

The Port supported the successful deployment of electric yard trucks at the South Intermodal Yard, under the Northwest Seaport Alliance's 2021 DERA grant in partnership with rail operator RMS. Six diesel yard trucks were remanufactured into battery electric versions. The Port partnered with Tacoma Power to install Level 2 chargers at the railyard. Experience gained from that initial deployment helped the Port develop this project, expanding the work into our own fleet. Successfully implementing this technology at our port will build confidence with other operators and will catalyze expanded adoption of electric equipment in the future.

Overall, the replacement of a Tier 0 diesel yard tractor with a zero-emission equivalent will eliminate 0.03 tons of PM_{2.5} and 5.5 tons of greenhouse gases (GHG) over the lifetime of this project.

The project will eliminate the use of approximately 490 gallons of diesel, although both this, and the likely realized emission reductions are expected to be significantly higher, as the zero emission yard tractor is expected to be used more than the existing Tier 0 diesel version, as it will be more reliable, require less maintenance, and be more appealing for labor to use than the diesel version (based on the noise and diesel fumes discussed earlier).

D. PROJECT DETAILS

Following Executive Director approval of the grant agreement, Port Maintenance will advertise for bids for one electric yard truck and mobile charger in the spring. Following selection of a suitable vendor, delivery of the new yard truck and charger is expected in fall/winter 2024. Port Maintenance will continue to operate the diesel version until the electric version arrives. Upon delivery, the diesel version will be scrapped, and proof provided to Department of Ecology. Upon receipt of scrappage, and purchase and delivery of the new yard truck, funds will be reimbursed to the Port by the Department of Ecology.

The Air Quality and Sustainable Practices team plans to use this unit in engagement and outreach activities throughout 2025 following delivery and initial training/deployment, giving both NWSA and Port tenants opportunities to see the electric yard truck in operation, and also learn about the mobile charger, which is likely to be a useful and flexible solution for many tenants.

Schedule

Advertise for Bid	April 29, 2024
Open Bids	May 13, 2024
Notice of Award	June 14, 2024
Substantial Completion	September 27, 2024
Final Completion	October 25, 2024

E. FINANCIAL SUMMARY**Estimated Cost of Project**

The total project cost is estimated at \$350,000, based on quotes received at the end of 2023.

The Department of Ecology is contributing \$244,318.91 of state VW settlement funding towards the total project cost. The Port is contributing the remaining \$105,681.09. Any additional costs over and above the anticipated costs would have to be met by the Port.

The total estimated cost of the electric yard truck for this project is \$320,000. The estimated cost for the mobile charging unit is \$30,000.

Cost Details

Item	Total Funding
Electric Yard Truck	\$320,000.00
Mobile Charger	\$30,000.00
Dept. Of Ecology VW Settlement Grant	\$244,318.91
Port Funding	\$105,681.09
TOTAL	\$350,000.00

Source of Funds

The current Capital Investment Plan (CIP) allocates \$350,000 for this project.

Financial Impact

Project costs will be capitalized and depreciated with an estimated useful life of 10 years. Estimated annual depreciation will be \$35,000. Estimated depreciation expense for 2024 will be \$6k.

Grant income will be recorded as non-operating revenue at the time reimbursement is requested.

The Tier 0 diesel yard truck which will be scrapped has zero net book value.

F. ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS

Alternative 1) Do nothing. Continue to operate old Tier 0 diesel yard truck at Port facilities.

Alternative 2) This request. Retire diesel yard truck early through scrapping and purchase new zero emission version using state grant.

Alternative 2 is the recommended course.

G. ENVIRONMENTAL IMPACTS/REVIEW

Permitting: No impacts

Remediation: No impacts – as the charger is a mobile unit, there is no ground disturbance.

Stormwater: No impacts

Air Quality: Reduces air pollutants and greenhouse gases, helping meet the goals of the Northwest Ports Clean Air Strategy, and the Port of Tacoma's Scope 1 greenhouse goal target.

H. ATTACHMENTS TO THIS BRIEFING

- Department of Ecology grant agreement.
- Resolution 2023-12-PT (Revising the Port's Targets for Reducing Greenhouse Gas Emissions and Amending and Superseding Portions of Resolution 2017-04-PT)