



Agenda Item No. (6)

To: Finance-Auditing Committee/Committee of the Whole
Meeting of October 26, 2023

From: John Gray, Director of Engineering and Maintenance
Michael S. Hoffman, Deputy General Manager, Ferry Division
Joseph M. Wire, Auditor-Controller
Denis J. Mulligan, General Manager

Subject: **APPROVE ESTABLISHMENT OF A NEW PROJECT, *SPAULDING REPLACEMENT PROJECT*, IN THE FISCAL YEAR 23/24 FERRY DIVISION CAPITAL BUDGET**

Recommendation

The Finance-Auditing Committee recommends that the Board of Directors approve establishing a new Ferry Division Capital Project, Project #2446, *Spaulding Replacement Project*, in the Fiscal Year 23/24 Ferry Division Capital budget in the amount of \$63,000,000.

This matter will be presented to the Board of Directors at its October 27, 2023 meeting for appropriate action.

Summary

The California Air Resources Board (CARB) issued amendments, effective January 1, 2023, to the Commercial Harbor Craft (CHC) regulation with the intent of reducing nitrogen oxides, sulfur oxides, and particulate matter tail pipe emissions from CHC.

The amended regulation applies to the District's fleet of seven ferry vessels. Based on the model year and Environmental Protection Agency (EPA) emission tier rating of the existing propulsion engines, all engines in the fleet require replacement with EPA Tier IV engines plus CARB Verified Diesel Particulate Filters. In preparation for this rulemaking, Staff worked with consultants to perform studies to determine if repowering would be feasible for District ferry vessels.

At the time of the District's 2021 feasibility study for the Spaulding vessels, the CHC amendments were still in draft form and it was unclear if the equipment necessary to comply with the regulation was available. Based on the best information available at the time, Staff determined it to be feasible to repower the Spaulding Class to conform with the regulation by replacing the existing EPA Tier III engines with EPA Tier IV engines including a CARB Verified Diesel Particulate Filter.

Preliminary vessel impact and cost estimates were conducted for the Spaulding Class to be repowered with a CARB compliant propulsion package. Shipyard construction cost estimates for a CARB compliant repower were \$5 million per vessel.

In 2023, the District began working with an engineering firm to develop detailed specifications and drawings for the installation of the CARB required equipment in the *M.S. San Francisco* and the *M.S. Marin*. Equipment capable of meeting the regulation had become available and was pending CARB verification, allowing the engineering firm to study the size and weight impacts of repowering the Spauldings. During the initial detailed design stage, it became clear that operational impacts to the vessel would be much more severe than originally estimated during the feasibility study. Staff requested the engineering firm to provide a comprehensive report on the impacts of a CARB compliant repower.

The available equipment options that will meet the CARB requirements are larger and heavier than what original equipment manufacturers (OEMs) were estimating in 2021. Several changes are required in the vessel structure to accommodate for the additional size and weight, resulting in the following design changes and impacts:

- Extending the vessels' overall length to expand the machinery space by approximately 8 feet, 3 inches.
 - This extension of vessel length will change handling characteristics, making it more difficult to maneuver while landing at a pier. The existing Spaulding size is a tight fit into most of the locations we serve. Adding length will increase the complexity of docking and undocking.
- The additional structure and equipment will increase the vessels' weight by an estimated 12,332 pounds.
 - The additional weight reduces the maximum passenger capacity allowed by the United States Coast Guard by 150 passengers.
 - The additional weight also reduces service speed, which has been verified by a computational fluid dynamic report and will result in longer crossing times. Slower trips are viewed negatively by customers and may affect their choice of travel mode in the Golden Gate Corridor.
- Extending the machinery space forward bulkhead into the passenger cabin by 6 feet results in a loss of cabin space, eliminating bike storage capacity in the vessels' current configuration.
- Changes to the vessels' longitudinal center of gravity (LCG) will likely result in a larger wake, which could result in environmental impacts.

In addition to the report on the impacts of a CARB compliant repower, Staff requested the engineering firm to perform a cost estimate for the repower construction. The engineering firm estimated the repower construction cost to be \$8,595,000 exclusive of engineering fees, propulsion engines, generators, and ancillary equipment. With the additional cost of propulsion engines, generators, and ancillary equipment, Staff estimates the cost to be more than \$10,000,000 per vessel. The Spaulding Repower Project is not eligible for Federal Transit Administration (FTA) funding.

In May 2023, Staff had a series of meetings to discuss options with respect to Spaulding vessels and the Ferry Division fleet plan. Staff considered the age of the Spauldings, operational limitations after repowering, impacts to future business, and project costs. Staff also engaged with the Metropolitan Transit Commission (MTC) to inquire about funding eligibility for replacement of the Spauldings. MTC confirmed that the *M.S. San Francisco* and the *M.S. Marin* are currently eligible for FTA replacement funding for 80% of the project costs.

Staff determined that the best course of action is replacing the Spauldings with high-speed catamarans that have the operational flexibility to serve any District route. Given all the factors considered, the District's interests will be better served by replacing, rather than repowering, the Spauldings. This change in scope from repowering to replacing the Spaulding vessels requires payment related to the termination of Contract No. 2022-F-084, *CARB Compliant Tier 4 Diesel Engines* and establishment of a new capital project.

A separate staff recommendation to terminate the contract and authorize payment of cancellation costs to Pacific Power Group, in the amount of \$299,576.00 will be presented to the Building and Operating Committee at its meeting of October 26, 2023.

Staff recommends the Board approve the establishment of Project #2446, *Spaulding Replacement Project*, a new Ferry Division capital project with a budget amount of \$63,000,000 for the procurement of three new ferry vessels to replace the *M.S. San Francisco* and *M.S. Marin*.

Fiscal Impact

The anticipated cost for Project #2446, *Spaulding Replacement Project* is \$63,000,000. The District is eligible for FTA funding to replace the *M.S. Marin* and *M.S. San Francisco* in the amount of \$50,400,000, which will cover 80 percent of the vessel replacement costs. The District will provide the FTA matching funds in the amount of \$12,600,000.

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