

BOARD MEETING DATE: May 1, 2026

AGENDA NO. 4

PROPOSAL: Execute Contract to Deploy Zero-Emission Ship Assist Tugboats

SYNOPSIS: In December 2023, the Board recognized an award of \$76,250,003 from the California State Transportation Agency (CalSTA) under the 2022 Port and Freight Infrastructure Program (PFIP) to demonstrate a short-line hydrogen fuel cell locomotive and deploy direct current fast chargers and hydrogen refueling dispensers for heavy duty trucks. The Board also established the CalSTA Special Revenue Fund (89) to receive the funds and execute a contract with Wabtec Corporation (Wabtec). Since then, Wabtec withdrew from the project and South Coast AQMD staff subsequently received a proposal from Arc Boat Company Inc. (Arc) to deploy four zero-emission (ZE) battery electric ship assist tugboats at the San Pedro Bay Ports. CalSTA approved the scope change for the tugboats in February 2026. This action is to execute a contract with Arc for up to \$33,688,480 from the CalSTA Special Revenue Fund (89) to deploy four ZE tugboats, upon the receipt of CalSTA's final award document.

COMMITTEE: Technology, April 17, 2026; Recommended for Approval

RECOMMENDED ACTION:

Authorize the Chair to execute a contract with Arc Boat Company Inc. for up to \$33,688,480 from the California State Transportation Agency (CalSTA) Special Revenue Fund (89) to deploy four zero-emission (ZE) battery-electric ship assist tugboats.

Wayne Nastri
Executive Officer

Background

In December 2023, the Board recognized an award of \$76,250,003 from CalSTA under the 2022 Port and Freight Infrastructure Program and approved execution of contracts with Wabtec Corporation (Wabtec) to demonstrate a short-line hydrogen fuel cell locomotive and with Prologis to install chargers and hydrogen fueling dispensers. In early 2025, Wabtec withdrew from the project due to a business decision. Subsequently, staff received a proposal from Arc Boat Company Inc (Arc) to deploy four ZE, battery-electric ship-assist tugboats to operate in the San Pedro Bay Ports. In February 2026, CalSTA approved the proposed scope modification, pending final award documentation.

The 2022 AQMP showed the need to rapidly transition to ZE technologies, including the modernization of commercial harbor craft, to reduce NO_x and PM_{2.5} emissions and help achieve federal ozone standards. Tugboats are among the largest emitters in the commercial harbor craft category. Reducing emissions from the marine sector requires the development and deployment of advanced, cleaner propulsion technologies. Also, to comply with California's Commercial Harbor Craft Regulation, the marine industry is seeking feasible emission reduction technologies.

Tugboats typically operate on short routes and spend long periods idling but rely on high-horsepower diesel engines for ship-assist work, which makes this class of harbor craft more difficult to electrify. Electric propulsion systems can provide instantaneous torque and deliver efficient power suitable for tugboat operations; however, they require large onboard battery capacity and high-power charging infrastructure. To reduce costs and weight, the battery packs for these tugboats were sized smaller and rely on high-power, more frequent charging sessions. In October 2025, the Governing Board approved a contract under the U.S. EPA Targeted Airshed Grant to Arc for the design and installation of a 4.8-megawatt marine vessel rapid charging system, with battery megapacks at Berth 60 (AltaSea) at the Port of Los Angeles. In April 2026, the Board awarded Arc additional funding under the Carl Moyer Program to deploy additional chargers at the same location.

Proposal

Arc proposes to deploy four ZE, electric ship-assist tugboats to replace the previously approved fuel cell locomotive demonstration project. Each proposed vessel is designed to deliver up to 7,000 horsepower and up to 100 metric tons of bollard pull. The vessels will measure approximately 80 feet in length with a 40-foot beam and will be optimized for harbor-restricted ship-assist operations while maintaining U.S. Coast Guard (USCG) regulatory compliance. Each tugboat will feature a fully electric propulsion system powered by a 5.8-megawatt-hour lithium-ion battery pack and equipped with azimuth thrusters to maximize maneuverability. To meet USCG emergency requirements, each vessel will include one removable 400-kilowatt Tier 4 Final-compliant diesel generator housed in a containerized system. The generator will be activated only during

emergency situations, providing operational redundancy while eliminating routine diesel consumption. Under normal operating conditions, the vessels will function as true ZE platforms.

Arc has initiated construction of two vessels using private capital, with the first vessel anticipated to be operational by the end of 2026. Arc has selected Snow & Company, located in Seattle, Washington, as the shipbuilder based on its in-house naval architecture capabilities, accelerated design processes, and established reputation for constructing high-quality vessels. The shipyard maintains a team of senior welders with an average of more than 25 years of industry experience. The vessels will be operated by Curtin Maritime Corp., a Long Beach-based marine services company providing marine transportation, harbor services, and shipyard operations. Curtin Maritime has executed a charter agreement to ensure immediate deployment of the tugboats upon delivery, with a purchase option structured to guarantee operational deployment regardless of the timing of exercise.

The publicly accessible charging infrastructure will be installed at AltaSea at the Port of Los Angeles, under separate U.S. EPA and Carl Moyer awards, to support the Arc boats and other ZE vessels operating at the Ports of Los Angeles and Long Beach. Arc has coordinated with the Los Angeles Department of Water and Power and other relevant utilities with jurisdiction over the AltaSea site to confirm feasibility, timeline, and costs associated with the electrical infrastructure required for megawatt-scale vessel charging. The charging hub is designed to accommodate Arc's full vessel deployment while providing additional capacity for future expansion, thereby minimizing potential infrastructure constraints as ZE vessel adoption increases at the port.

Sole Source Justification

Section VIII.B. 2 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award may be justified. The request for a sole source award for the Arc involves cost sharing by multiple sponsors and their unique experience and capabilities. The proposed project will include in-kind contributions and cost-share as listed under Resource Impacts and CalSTA.

Benefits to South Coast AQMD

The South Coast Air Basin is classified as an "extreme" nonattainment area for ozone under the federal Clean Air Act. Successful deployment of ZE tug boats helps reduce NOx emissions and PM2.5 emissions at the ports and helps the region reduce ozone and PM2.5 air pollution to meet the National Ambient Air Quality Standards. The four ZE tugboats will reduce 340 tons of NOx and 6.2 tons of PM2.5 emissions annually.

Resource Impacts

The contract with Arc will not exceed \$33,688,480 from the CalSTA Special Revenue Fund (89). The proposed project cost-share is shown in the table below:

Funding Source	Funding Amount	Percent
CalSTA	\$33,688,480	43
Arc	\$45,267,880	57
Total	\$78,956,360	100