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Oceanographic Research Vessels - Opportunities for zero-emission maritime operations

Additional submitted attachment is included below.

California Energy Commission
Electric Program Investment Charge 2021-2025 Investment Plan
July 1, 2021 - Hydrogen Technologies Workshop Comment

Scripps Institution of Oceanography, UC San Diego

Comment:

Please consider within the California Energy Commission (CEC) Electric Program Investment Charge (EPIC) 2021-2025 Investment Plan hydrogen fuel cell demonstration projects for maritime research vessels as defined under 46 CFR Subchapter U. These vessels are ideal for hydrogen demonstration projects, and often work in nearshore areas and marine protected areas that would significantly benefit from zero-emission operations. They are also highly visible platforms due to their work carrying hundreds of scientists and students to sea annually from institutions all across California, and would serve as a powerful and enduring expression of the state's commitment to reducing pollution and greenhouse gas emissions.

The CEC previously included eligibility for this vessel class for repowering projects. We request that CEC also consider inclusion of new construction efforts for Subchapter U vessels as well in order to minimize the total capital costs that may be required. New construction provides an ideal opportunity to optimize vessel power systems for zero-emission operations, and will provide a powerful incentive to use hydrogen rather than diesel power from the outset of a new vessel's service life.

We request that size limits not be placed on eligible Subchapter U vessels, so that hydrogen fuel cell technology may be accessed, deployed, and validated across a broad size range of oceanographic research vessels.

Finally, as the CEC seeks to expand California's hydrogen fuel infrastructure, we request that CEC establish a program to defray the cost of LH2 used in maritime hydrogen fuel systems aboard seagoing vessels, so that the cost of operations of clean hydrogen vessels can be comparable with lower-cost diesel. Access to more affordable LH2 will incentivize the expanded use of hydrogen fuel technology to the maritime industry, supporting state carbon reduction goals.

This project is responsive with the local Community Emissions Reduction Plan (CERP) which contains detailed information and strategies intended to reduce both air pollution emissions and community exposure to air pollution in the Community of Portside Environmental Justice Neighborhoods (Portside Community) surrounding San Diego Harbor. The recently approved plan noted that in the Portside Community, NOx emissions, a component of smog, are driven by

off-road mobile sources, with the major contributors being ocean going vessels and commercial harbor craft.