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**SoCalGas Comments to the H2 Rail and Marine Solicitation**

*Additional submitted attachment is included below.*



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**Subject: Comments on Upcoming Solicitation Regarding Fuel Cell Demonstrations in Rail and Marine Applications at California Ports (Docket No. 19-ERDD-01)**

SoCalGas appreciates the opportunity to comment on the California Energy Commission's (CEC) Upcoming Solicitation Regarding Fuel Cell Demonstrations in Rail and Marine Applications at California Ports (Solicitation) (Docket No. 19-ERDD-01) and materials presented at the October 17, 2019 Solicitation workshop. Greenhouse gas and criteria air pollutant emission reductions in rail and marine applications have traditionally been difficult to achieve due to the nature of their operations and types of equipment used. SoCalGas believes that hydrogen as a fuel in these applications has significant potential to reduce emissions and is prepared to offer support in efforts that advance the commercialization of fuel cells and other low-carbon technologies. To that end, SoCalGas would like to submit the following comments for consideration:

- 1. CEC should leverage funding.** Rail and marine are heavy-duty applications that require extensively large capital investments. There was general concern that \$6.6 million is insufficient to successfully complete more than one demonstration under this solicitation. More funding for this space is warranted. There may be opportunities to coordinate with the South Coast Air Quality Management District (SCAQMD) or the Department of Energy's (DOE) Fuel Cell Technology Office (FCTO) for additional funding. To this end, the ability to coordinate with other funding sources will require flexibility with project timelines.
- 2. Solicitation should be streamlined.** Due to the funding constraints, the solicitation must be streamlined to ensure maximum value is directed toward demonstrating the vessel or train. Any constraints on the project scope should be minimized to reduce diverting funds away from the key research topic: demonstrating hydrogen as an electric propulsion system in marine or rail applications.
- 3. Eliminate 33% renewable hydrogen requirement.** This constraint will divert funds away from the technology demonstration. This is a temporary demonstration project. California's hydrogen supply will continue to become more renewable similar to electricity (through the renewable portfolio standard) and natural gas (increase in renewable gas such as biomethane and synthetic methane).

This requirement would be unnecessarily burdensome for applicants.

4. **Minimize constraints on fueling infrastructure.** Allow projects to fuel the test vehicle in any way that make sense, is safe, and meets all of the relevant codes and standards. Imposing specific fueling constraints will divert funds away from the technology demonstration. As a temporary demonstration project, the way equipment is fueled will likely be very different than how it is fueled when commercialized and/or serving a larger fleet.
5. **CEC should serve as a conduit for operators and technology providers.** For projects to have a higher success rate, applicant must be able to coordinate with the ports and railroads. CEC could facilitate this by connecting applicants to the key contacts at the ports and railroads.
6. **Funding should prioritize emission reduction impact.** Due to the limited funding available, the solicitation should prioritize applications that incorporate the highest GHG and criteria air pollutant emission reduction impact. This includes prioritizing Class 1 railroads that would like to participate because of the sheer number of locomotives Class 1 Railroads own and can potentially be replaced with advanced technology. Short line railroads, which are smaller railroads that operate in smaller designated areas, often have very specific duty cycles that are not necessarily transferable to rail applications.
7. **The demonstration should monitor the wear and performance of the fuel cell systems.** Rail and marine industries rely on rigorous, heavy-duty equipment. It will be extremely important the physical attributes of the fuel cell are monitored closely to ensure it performs for extended periods of time. Using a locomotive to build trains causes significant impact and vibration within the locomotive that could slowly degrade the fuel cell, which could pose a safety or fire risk for operators.
8. **Federal Railroad Administration (FRA) should be involved early in the process.** CEC should engage FRA prior to the Solicitation being released. FRA oversees railroad safety and may have additional requirements for a demonstration, which should be included in the solicitation. FRA also approves safety specifications for tender cars that can provide fuel or store batteries for a locomotive. It will be important to get FRA input if a tender car configuration is going to be used.

Thank you again for the opportunity to comment on the Solicitation and we look forward to working with the CEC on this effort.

If you have any questions, please feel free to contact me.

Sincerely,



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