

November 5, 2021

Captain Gregory A. Callaghan  
Eleventh Coast Guard District  
Coast Guard Island, Building 50-7  
Alameda, California 94501-5100  
[Gregory.A.Callaghan@uscg.mil](mailto:Gregory.A.Callaghan@uscg.mil)

Dear Captain Callaghan,

This letter is in response to the United States Coast Guard's (Coast Guard) letter, dated August 6, 2021, concerning the Draft Proposed Amendments to the California Air Resources Board's (CARB) Commercial Harbor Craft (CHC) Regulation.

Safety remains the top priority for marine vessel operations, and we are encouraged and appreciative that the Coast Guard has participated since 2018 in the development of the Proposed Amendments to CARB's CHC Regulation. With the input from the Coast Guard and many other stakeholders, we formally released the Proposed Amendments on September 21, 2021, which will be presented to our Board on November 19, 2021. This will be the first of two hearings. The Board will not take final action on the Proposed Amendments until early next year. The Proposed Amendments would significantly reduce toxic diesel particulate matter emissions from vessels by an estimated 89 percent. These reductions, in addition to reductions of smog-forming precursors and greenhouse gases, are critical for protecting the public health, meeting federally mandated air quality standards, and mitigating global climate change.

As indicated your the letter dated August 6, 2021, the proposal includes a few compliance options for vessel owners and operators to meet cleaner combustion or zero-emission performance standards. In some cases, such as for commercial passenger fishing vessels, there is currently low feasibility for repowering with Tier 4 engines and with other retrofit aftertreatment, such as diesel particulate filters (DPF). In these cases, vessel replacement may be a compliance response, which would have increased costs compared to only repowering engines. In our formal proposal, released on September 21, 2021, staff is proposing compliance extensions for vessel owners and operators who need to replace their vessels to comply – up to 8 years in total. This could result in commercial passenger fishing vessel replacement not being required until over 10 years from today. We recognize there would still need to be adjustments to the business models for affected companies; however, CARB staff estimates that just over 10 percent (368 out of 3,159 vessels) of the statewide population would need to be replaced in response to the Proposed Amendments. Additionally, the overall costs of the Proposed Amendments are \$2 billion between 2023 and 2038, whereas the monetized health benefits from reduced emissions are more than \$5 billion for the same time period. Therefore, the proposal is cost-effective, and it is an overall benefit for the State to require investment into cleaner, health-protecting emissions controls, as opposed to not requiring further action.

We also acknowledge your points regarding the availability, safety, and performance of Tier 4 engines and DPF aftertreatment in marine vessels. The United States Environmental Protection Agency (U.S. EPA) has certified at least 40 engine families covering 22 models of Tier 4 marine engines, and one Tier 3 engine model that is originally equipped with a DPF. We are anticipating that several vessel owners and operators would comply with a retrofit DPF, which would be required to undergo CARB Verification pursuant to Title 13, California Code of Regulations, Sections 2700 et seq. In order to be granted CARB verification, DPF manufacturers must demonstrate safe and durable in-field performance for over one thousand hours. At this moment, one manufacturer has already installed a retrofit DPF onto an existing towing vessel, the *S. Bass*, operating in California. Whether DPFs are included as part of the original marine engine certified by U.S. EPA or as a retrofit, they can be an additional source of heat in the engine room if using an active regeneration strategy. However, the additional heat source is only activated when the engine is operating at lower loads, and the overall exhaust profile is not designed to be hotter than under engine heat alone.

To date, there are millions of DPFs installed and successfully reducing diesel particulate matter from engines in on-road vehicles, off-road equipment, stationary diesel engines, and other equipment – all with no by-pass systems installed. We recognize that in the marine environment there are additional considerations if propulsion equipment fails, as the vessel may not be able to seek emergency assistance as quickly as on-road vehicles. We remain concerned that allowing vessel owners and operators to opt-in to using a by-pass system could result in improper or poor maintenance and fewer emission reductions would be achieved. CARB staff has not received data showing that retrofit DPFs have caused the operation of a diesel engine to shut down. Therefore, at this time, it remains a CARB policy that DPF manufacturers shall not use by-pass systems of any type on their aftertreatment strategies.

We remain open to continuing dialog regarding by-pass systems if the Coast Guard has compelling information and data suggesting that a marine diesel engine has lost power due to aftertreatment or engine designs. We look forward to continued dialog with the Coast Guard regarding the safety and public health protections of CHC operations in California.

Sincerely,

A handwritten signature in blue ink, appearing to read "Bonnie Soriano".

Bonnie Soriano, Branch Chief, Freight Activities Branch