The American Waterways Operators

5315 22nd Avenue NW
Seattle, WA 98107

PHONE: 203.980.3051
EMAIL: ccostanzo@americanwaterways.com

Charles P. Costanzo
General Counsel & Vice President – Pacific Region

March 12, 2020

Ms. Tracy Haynes
Staff Air Pollution Specialist
Transportation and Toxics Division
California Air Resources Board (CARB)

Dear Ms. Haynes,

Thank you again for the opportunity to engage with CARB on its Proposed Concepts for Commercial Harbor Craft in California.

I am writing to request a 90-day extension of the March 31, 2020 public comment deadline for the Proposed Concepts. CARB has emphasized to the American Waterways Operators the importance of robust industry feedback on the Proposed Concepts for Commercial Harbor Craft in California, many of which are unprecedented within the tugboat, towboat, and barge industry. AWO appreciates CARB's willingness to consider modifications to the proposed concepts based on industry input, but the March 31, 2020 public comment deadline is insufficient for AWO to convene and engage a robust group of members and stakeholders to accurately assess:

- The feasibility of new-build technologies to meet CARB's proposed requirements;
- The ability of vessel operators and shipyards to accommodate CARB's proposed requirements for retrofits and upgrades;
- The viability of in-use proposals, including opacity testing and recordkeeping changes;
- The practicability of CARB's proposed compliance schedules.

A 90-day extension of the public comment period on the Proposed Concepts would allow time for AWO to develop feedback without interfering with CARB's proposed implementation timelines. Additionally, allowing AWO and other heavily-impacted stakeholders to submit public comments with greater clarity and comprehensiveness than those submitted after only several weeks of stakeholder and member engagement during a global public health crisis may save CARB staff additional time and research.

Sincerely,

Charles P. Costanzo

From: boatcc@aol.com <boatcc@aol.com>
Sent: Thursday, March 12, 2020 3:22 PM
To: Haynes, Tracy@ARB <Tracy.Haynes@arb.ca.gov>
Subject: Harborcraft Concept Costs

Ms. Haynes,

Estimated costs for proposed concept compliance:

-Retrofit existing vessels 3-4 engines per vessel: $750,000 - $1,000,000 per vessel (8 vessels in fleet currently)

-Replacement vessels 2-5 million each.

-Alternative technologies: SCR/DPF

-Time and cost for engineering for retrofit or replacement: 6-8 months, $25,000-$50,000.

-Years to accumulate capital for compliance: Probably not feasible.

-Years of continuing use of existing vessels: 3-10 years

Vessels are crewboats working primarily on abandoning platforms in SB Channel.

Vessels are on shorepower or "cold" when not in use.

Regards,
Tom Croft
C & C Boats, Inc.

JACOBSEN PILOT SERVICE, INC.
LOS ANGELES AND LONG BEACH HARBORS

PILOT SERVICE

U.S. FEDERAL LICENSED PILOTS

OFFICE (562) 435-5435 • PILOT STATION (562) 432-0664 • FAX (310) 835-2485
P.O. BOX 32248
LONG BEACH, CALIFORNIA 90832-2248

March 15, 2020

Ms. Tracy Haynes
Staff Air Pollution Specialist
Transportation and Toxics Division
California Air Resources Board (CARB)

Re: Requesting a 90-Day Extension

Dear Ms. Haynes,

Thank you for the opportunity to give you feedback on your Proposed Concepts for Commercial Harbor Craft in California.

Because these proposals have a chance of drastically impacting our business, we would like more time to thoroughly review. I would like to request a 90-day extension of the March 31, 2020 public comment deadline.

This is important to us because our company has recently designed and built two new pilot boats with the latest TIER 3 engines that are less than 600KW (804hp). The first pilot boat has been in service for 18 months and the second boat will be completed soon. These new pilot boats burn half the fuel and create half the emissions compared to our older pilot boat of the same size. Although this is a huge success for us, our new pilot boats could be negatively impacted by these regulations. This is why we need more time to review this closely.

We definitely want to cooperate with CARB and come up with good solutions to improve air quality, while ensuring we can continue to provide safe and reliable service as harbor pilots.

Thank you for considering this 90-day extension.

Sincerely,

Thomas A. Jacobsen
President

CROWLEY®
People Who Know®

18 March 2020

Tracy Haynes
Freight Technology Section, Transportation and Toxics Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Ms. Haynes,

Crowley Marine Services, Inc. (Crowley) is requesting at least a 60-day extension of the comment deadline for California Air Resources Board's (CARB) 27 February 2020 "Proposed Concepts for Commercial Harbor Craft in California" (Harbor Craft Concepts).

It is proving impracticable for Crowley to meet the 31 March 2020 deadline for comments on the Harbor Craft Concepts.

At part three of the Harbor Craft Concepts document, CARB staff ask for input on over a dozen questions. Many of these questions do not have short or easy answers. Several will require respondents to gather information from outside their own organizations. In addition to reviewing these questions at part three of the Harbor Craft Concepts document, some commenters are likely to have observations about the material presented in the 40 other pages of content presented in the Harbor Craft Concepts document.

It would have been a challenge to provide well-researched, well-articulated, and comprehensive comments on parts one and two of the Harbor Craft Concepts documents and thoughtful answers to CARB's questions at part three of the document by 31 March under normal circumstances.

Circumstances are now anything but normal. Crowley is currently focusing on implementing business continuity strategies so that the company can continue serving customers despite COVID-19 related quarantines, supply shortages, and travel restrictions. Responding to the Harbor Craft Concepts, though important, is simply not a priority in this time of significant disruption.

For these reasons, Crowley requests at least a 60-day extension of the comment deadline for the Harbor Craft Concepts document.

Thank you for considering this request.

Vice President, Crowley Marine Services, Inc.

PMSA
PACIFIC MERCHANT SHIPPING ASSOCIATION

March 18, 2020

Ms. Tracy Haynes
California Air Resources Board
1001 I Street
Sacramento, California 95812

Submitted electronically to *tracy.haynes@arb.ca.gov*

Subject: Request for Regulatory Pause Due Impacts of COVID-19

Dear Ms. Haynes:

The spread of COVID-19 is disrupting the entire world. The impact has been particularly difficult to manage in an industry based upon the international movement of goods and people. Necessary precautions to address COVID-19 have already made routine work challenging or impossible. Travel bans have already cutoff key personnel from reaching vessels and terminals.

Two weeks ago, during its webinar, CARB staff asked industry to collect additional information in order to inform the Harbor Craft rulemaking. PMSA immediately began working with its partner, American Waterways Operators, to coordinate with our impacted members to collect the requested information. Unfortunately, the accelerating impact of the COVID-19 crisis has made collecting the information you requested nearly impossible on the timeline laid out.

The maritime industry is part of the State's essential infrastructure, exempt from shelter in place orders in order to provide critical support for the movement of goods and supplies. As a result, member companies are solely focused in completing these tasks while protecting the health and well-being of their employees and community. Based on the recent study from Imperial College London, this outbreak will not subside for months with the forecast peak in the United States not reached until June. As a result, it will be impossible for the regulated community, to collect the necessary information in an expeditious way.

As a result, we request that the regulatory schedule be paused until this crisis is over and its full impact can be assessed. Thank you for your consideration.

Sincerely,

Thomas Jelenić
Vice President

SAN FRANCISCO BAR PILOTS ASSOCIATION
Pier 9 East End
San Francisco, CA 94111
415-362-5436 Fax 415-362-0861

March 19, 2020

Ms. Tracy Haynes
Staff Air Pollution Specialist
Transportation and Toxics Division
California Air Resources Board (CARB)

Dear Ms. Haynes,

As a follow up to our letter of March 13, 2020 we are requesting modification of our 90 day extension request to the comment period for the *Proposed Concepts for Commercial Harbor Craft in California*. We are now requesting that the ruling making be postponed indefinitely until the impacts of the COVID-19 pandemic have been resolved.

The regional and national response to the COVID-19 pandemic have resulted in significant workplace restrictions and these circumstances are unlikely to resolve near term. During these challenging times, our organization is 100% focused on maintaining 24/7 pilotage service in support of the maintaining our nation's supply chain. Our resources to properly consider and respond to the proposed concepts are limited and we are unable to forecast when we will be able to direct our resources towards this very important topic.

Thank you for your additional consideration of this modified request.

Sincerely,

Capt. Joe Long
Port Agent

SALTCHUK

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March 17, 2020

Ms. Tracy Haynes
Staff Air Pollution Specialist
Transportation and Toxics Division
California Air Resources Board (CARB)

Dear Ms. Haynes:

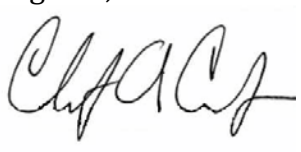
This correspondence is being sent on behalf of the entire Saltchuk family of companies, which includes the California operations of Foss Maritime and AmNav, two maritime stakeholders impacted by CARB's proposed changes in emissions standards. Our companies have been extremely involved to date in the discussion and formation of the "Proposed Concepts for Commercial Harbor Craft in California" and related changes to emission standards for support vessels involved in maritime activities throughout the State.

As you know, the formal comment period on the above-referenced concept is set to expire on March 31, 2020. Given the recent developments relating to COVID-19 and its impacts on both government accessibility and stakeholder participation, we respectfully request that the comment period be extended by 180 days. This extension would allow full participation in the comment period and concept development from the broad spectrum of maritime and other transportation related industries that would be affected by the proposed concept.

In addition, we believe that such an extension would not interfere with or compromise CARB's implementation schedule. This proposed extension would allow CARB to coordinate its efforts with any additional regulations or guidelines that the Federal EPA may invoke during this period.

We stand ready to answer any questions you may have.

Regards,



Christopher A. Coakley
Vice President of Government Affairs

Cc: Hon. Hector DeLaTorre, CARB Board Member

VANE BROTHERS

Vane Line Bunkering
610 Peterson St
Oakland, CA
94546

Max Rosenberg
Port Engineer, California
mrosenberg@vanebrothers.com
M: (707) 373-5619

March 18, 2020

Ms. Tracy Haynes, PE
Staff Air Pollution Specialist
Transportation and Toxics Division
California Air Resources Board (CARB)
tracy.haynes@arb.ca.gov

RE: Request for extension on comment period, Proposed Concepts for CHC

Dear Ms. Haynes:

Vane Brothers greatly appreciates the opportunity to provide comment on the *Proposed Concepts for Commercial Harbor Craft in California*. We recognize the hard work that has already gone into the proposed regulation, and value the goals of protecting the environment and reducing community health risk. As our operations in California have expanded, Vane Brothers has endeavored to participate by attending workshops, responding to surveys and providing accurate reports of our vessel operations. We are grateful for the chance to continue throughout the rulemaking process. We also recognize the complexity of the *Proposed Concepts* and the potential significant impact to our operation, and that of our industry partners.

In addition, the impacts of COVID-19 have created many barriers to providing appropriate comment. Operations have been significantly disrupted, causing both the direct and in-direct postponement of workshops and meetings. In unprecedented times, convening staff to adequately review this important subject is trying at best.

Given the criticality of this subject, Vane Brothers respectfully requests a minimum 90-day extension on the period for public comment, and that CARB re-evaluate based on the level of continued impact by COVID-19. We propose that the extension period will afford industry partners adequate time to respond to CARB with the most quality feedback.

Thank you for your consideration.
Sincerely,

Max Rosenberg

Martin Curtin
CEO
1400 Pier C Street
Long Beach CA 90813
T 619.843.4873
F 562.983.7269
martin@curtinmaritime.com
www.curtinmaritiime.com

March 20, 2020

Ms. Tracy Haynes
California Air Resources Board
1001 I Street
Sacramento, California 95812

Submitted electronically to
tracy.haynes@arb.ca.gov

Subject: Request for Regulatory Pause Due Impacts of COVID-19

Dear Ms. Haynes:

We respectfully request that, due to the emergency measures required under the COVID-19 virus outbreak, the public comment deadline for the proposed harborcraft rules is suspended indefinitely.

This rulemaking is among the most significant regulatory measures for the California harborcraft fleet. However, Curtin Maritime's focus, along with our fellow maritime providers, is continuing to perform essential services while protecting the health and well-being of our employees and community. In addition to collaboration among the regulated community, we will need opportunities to work with engine and other equipment manufacturers, financial institutions, legal professionals, shipyards and maintenance facilities, and many others to fully understand the impact of the proposed rules and to assist CARB staff as requested. This collaboration simply cannot take place under existing national emergency circumstances, and the end of these circumstances is nowhere in sight.

Please know that Curtin Maritime shares CARB's goals of reducing air emissions from harborcraft and safeguarding the health of Californians and their environment. We look forward to working with you and your staff on this important rulemaking. For now, though, CARB needs to suspend it.

Sincerely,

Martin Curtin
CEO

MSRC
Marine Spill Response Corporation®

March 25, 2020

California Air Resources Board
Tracy Haynes, PE
Staff Air Pollution Specialist

Sent Via Email

Dear Ms. Haynes:

The Marine Spill Response Corporation (MSRC) is a not-for-profit, U.S. Coast Guard classified Oil Spill Removal Organization (OSRO). It responds to spills from vessel and facilities in the State of California, and under orphan spill contracts with the Coast Guard and State of California.

MSRC was formed in 1990 to offer oil spill response services and mitigate damage to the environment. MSRC is recognized for its open-ocean and nearshore mechanical oil spill recovery capability. Our inventory of resources includes a significant number of emergency response vessels that deploy our containment boom and skimmers. These vessels also perform air monitoring, communications and other support services during responses to pollution events. Under the current Harbor Craft rules our vessels were exempted from CARB emissions regulations as they are work boats that operate less than 300 hours per year. The new rule language as proposed would significantly impact our fleet, and it would force MSRC to make difficult decisions about its assets and operations in California.

We currently have 48 vessels or barges between Eureka and San Diego ready to respond to oil spill emergencies in the waters of California. 45 of these operate less than 300 hours per year. These vessels are in six different California Air Districts. The majority of these vessels were built prior to EPA emissions rules on diesel engines, and are not compliant with the proposed rule. However, they have minimal air emissions, since they operate infrequently – basically, during emergencies in response to an oil spill, during training, and while undergoing periodic preventative maintenance. To prevent the potential impact this rule could have on spill response capability in California, MSRC would like to see the dedicated oil spill response vessels either exempted from the rule, or see a revision that lifts the five vessel per fleet limit for dedicated oil spill response vessels.

We acknowledge the goal in amending the rule, but think the potential impact to spill response capability in California (i.e., likely fewer vessels that can continue to operate in the State) outweighs the emissions reductions you may gain from these infrequently operated engines. We reviewed the basis for the changes and do not believe allowing an exemption for these vessels adversely impacts other harbor craft operators in California or in some way facilitates an unfair advantage. Our basis for that is as follows.

- MSRC's vessels do not create a scenario where an exemption would allow them to undercut a competitor by performing work in a regulated section. We are a nonprofit whose sole purpose is spill response, and our vessels are 100 percent dedicated to that service.

- We note your exception for fishing vessels based on the small profit margins in the industry, and demonstrated lack of feasibility for Tier 4 repowers and retrofits. The vast majority of our vessels could not be repowered due to configuration challenges associated with larger Tier 4 engines.

- We understand your basis for the five vessel limit in for-profit sectors due to the possibility it would provide a competitive advantage to larger fleets by allowing them to spread their operating hours. We don't feel this is relevant to our business as our fleet size is driven by spill response scenarios, and our operating hours by training to ensure readiness.

As an organization we pride ourselves on exceeding the standards required for OSROs, and on being a valued member of the commercial, government, and non-profit community that serves this industry. We are concerned that an unintended consequence of the proposed rule would adversely impact the viability of MSRC continuing to serve at the level we currently do.

Very Truly Yours,

John Swift

John Swift
Vice President

WETA WATER EMERGENCY TRANSPORTATION AUTHORITY

BY EMAIL

March 26, 2020

Mr. Richard Corey, Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814
Richard.Corey@arb.ca.gov

SUBJECT: Comments on Proposed Concept for Commercial Harbor Craft in California - Request to Delay Comment Period in Consideration of the COVID-19 Crisis

Dear Mr. Corey:

The San Francisco Bay Area Water Emergency Transportation Authority (WETA) is a regional public transit agency tasked by the California Legislature both with operating ferry service on the San Francisco Bay and with coordinating the water transit response to regional emergencies. WETA is at the forefront of environmental innovation as the first-of-its-kind operator to be testing Tier-4 engines on some of its fleet. In addition, WETA is committed to using the best available control technologies on all of its vessels. This comes at considerable cost, but WETA is committed to environmental stewardship in its provision of public ferry transit to the Bay Area.

It is impossible to overstate the impact the ongoing COVID-19 pandemic is having on WETA's operations. WETA's focus on its core functions during the Shelter in Place Orders makes it impossible at this time to provide thoughtful and complete comments on the California Air Resources Board's (CARB) Proposed Concepts for Commercial Harbor Craft in California (Proposed Concepts). Accordingly, we strongly urge CARB to delay the public comment period associated with CARB's Proposed Concept until the Public Health Emergency is no longer in effect and we have had time to address the resulting immediate and near-term impacts of the pandemic on our operations and finances. At such time, WETA looks forward to collaborating with CARB to address what we believe are significant feasibility and affordability concerns that will require adjustments to the Proposed Concept.

We respectfully ask that CARB acknowledge the ongoing crisis and delay the comment period for six months to twelve months. Thank you for your consideration of our request and your understanding of our singular focus on our operations at this time.

Sincerely Yours,

Nina Rannells

Nina Rannells
Executive Director
San Francisco Bay Area Water Emergency Transportation Authority

c: Honorable Jim Beall, Chair, Senate Transportation Committee
Honorable Jim Frazier, Chair, Assembly Transportation Committe

California Transit Association

Connecting us.

April 7, 2020

The Honorable Gavin Newsom, Governor
State of California
State Capitol, Suite 1173
Sacramento, CA 95814

The Honorable Toni Atkins, President Pro Tempore
California State Senate
State Capitol, Room 205
Sacramento, CA 95814

The Honorable Anthony Rendon, Speaker
California State Assembly
State Capitol, Room 209
Sacramento, CA 95814

RE: Statutory and Administrative/Regulatory Relief Measures to Support Transit Agencies

Dear Governor Newsom, President pro Tem Atkins, and Speaker Rendon:

On behalf of the California Transit Association, thank you for your leadership during the public health crisis, your staffs' attention to our industry's needs, and for your steadfast support of California's essential workers still relying on public transit agencies to move about.

As you well know, the COVID-19 pandemic precipitated an existential crisis facing transit agencies statewide, as fare revenue losses and the escalating cost of front-line efforts to maintain public health severely threatened agency fiscal solvency and operational capacity. With your support, California was able to capture significant new emergency funding in the federal Coronavirus Aid, Relief and Economic Security (CARES) Act to help maintain transit service levels in the near-term, ensuring that many essential workers throughout our state have the means to travel as needed. Over the mid- to long-term, our members anticipate that additional funding will be necessary to backfill for revenue lost from the expected decline in sales tax revenue, to prevent from becoming permanent service cuts made in response to state and local directives, and to stave off future cuts that could further set transit service back. We are working with our members to scope the anticipated revenue losses on the horizon, as well as any need for more state and federal supplemental funding. When we have completed that work, we look forward to engaging with you to discuss the various options before the state.

In the meantime, we respectfully commend to you a variety of near-term and low- to no-cost actions the Administration and the Legislature can take today to reduce transit agency costs and ensure transit agencies direct their current funding and staff capacity to advancing public health as they maintain the transit service still needed for Californians that must travel but have no other option.

The attachment accompanying this transmittal letter includes a series of statutory and administrative/regulatory relief measures – sourced from our member agencies – that would, among other things:

- Temporarily eliminate counterproductive financial penalties for non-compliance with various transit funding efficiency measures;
- Create more flexibility in the use of existing transit funding; and,
- Temporarily postpone the time-lines for various enforcement actions, regulatory milestones and the use of funding requirements that would otherwise shift agency resources away from the core mission during the crisis.

Again, we thank you for your leadership through these uncertain times and we welcome the opportunity to further discuss our proposed relief measures with you. Our paramount concern is preserving lifeline and essential mobility options during this crisis; and we look forward to working with you to restore public transportation in California to the national model it was before the pandemic.

If you have any questions, please contact me at 916-893-9299.

Sincerely

Joshua W. Shaw
Executive Director

cc: The Honorable Betty Yee, Controller, State of California
The Honorable Jim Beall, Chair, Senate Transportation Committee
The Honorable Holly Mitchell, Chair, Senate Budget and Fiscal Review Committee
The Honorable Jim Frazier, Chair, Assembly Transportation Committee
The Honorable Phil Ting, Chair, Assembly Budget Committee
David Kim, Secretary, California State Transportation Agency
Toks Omishakin, Director, California Department of Transportation
Richard Corey, Executive Officer, California Air Resources Board
Members, Executive Committee, California Transit Association

executive staff and the governing boards who would usually approve such plans are also meeting less frequently for non-emergency items.

Proposed Regulatory Change:

a. Within the Innovative Clean Transit regulation, postpone the deadline for the submittal of rollout plans by large agencies from June 30, 2020 to December 31, 2020.

   Relevant agency-department: ARB

7. Postpone development and implementation of the California Air Resources Board's Commercial Harbor Craft regulation.

Justification: The California Air Resources Board is beginning the development of a new regulation affecting commercial harbor craft. These vehicles are operated by several transit agencies in the state for passenger service, including the Golden Gate Bridge, Highway and Transportation District, Long Beach Transit and the San Francisco Water Emergency Transit Authority. Comments on the regulatory concept are due to ARB by April 30.

Due to the COVID-19 pandemic, transit professionals are focused primarily on maintaining the fiscal solvency and operational capacity of their transit systems and protecting public health. This artificial deadline would shift limited financial and staff resources from these critical functions when transit agencies can least afford it.

Proposed Regulatory Change:

a. Postpone the development of the commercial harbor craft regulation until *at least* January 1, 2021.

   Relevant agency-department: ARB

8. Extend the expenditure deadline for Low Carbon Transit Operations Program awards.

Justification: The COVID-19 pandemic has slowed the delivery of transit projects and transit vehicles funded by the Low Carbon Transit Operations Program. If expenditure deadlines are not extended, transit agencies will be forced to forfeit awards from the Low Carbon Transit Operations Program, just when agencies are focused primarily on maintaining the fiscal solvency and operational capacity of their transit systems and protecting public health.

Proposed Regulatory Change:

a. Extend the expenditure deadline for Low Carbon Transit Operations Program awards.

   Relevant agency-department: CalSTA; Caltrans

Passenger Vessel Association
103 Oronoco Street, Suite 200
Alexandria, VA 22314
Phone (703) 518-5005
FAX (703) 518-5151
Toll Free 1-800-807-8360
pvainfo@passengervessel.com
www.passengervessel.com

April 21, 2020

Ms. Mary D. Nichols
Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Ms. Nichols:

While the Passenger Vessel Association (PVA) acknowledges and thanks you for the one-month extension (to April 30) of the public comment period on the proposed amendments to the Harborcraft emissions rule, we must respectfully and urgently request a further and indefinite deferral of this rulemaking.
The coronavirus pandemic has upended society as a whole, and it is not clear when things will even begin to return to normal. Governor Newsome proclaimed a State of Emergency on March 4, and he issued a "Stay at Home" order on March 16.

Thirty-six members of the Passenger Vessel Association operate approximately 100 vessels in California; each vessel is subject to the existing Harborcraft rule and will be affected by the proposed amendments to it. In response to the coronavirus emergency, all of these entities have ceased doing business, except for a small number of ferry operators who must provide bare-bones "lifeline" transportation. Otherwise, company personnel are abiding by the Governor's "Stay at Home" order. Many PVA members have laid off or furloughed staff. Those workers still on the payrolls are trying to work from home, but there are many obstacles to doing that successfully (as the Air Resources Board staff no doubt has discovered).

Dealing with the immediate demands of the coronavirus crisis is consuming all of the time and energy of the few PVA member employees who are still on the job. PVA members simply have no time or opportunity to complete their evaluations of CARB's concepts for a revised Harborcraft rule or to provide reasoned, fact-based responses to CARB's call for information. As their national trade organization, PVA is subject to the same constraints.

Passenger Vessel Association
103 Oronoco Street, Suite 200
Alexandria, VA 22314
Phone (703) 518-5005
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pvainfo@passengervessel.com
www.passengervessel.com

Once again, PVA stresses that any new deadline for comments should be deferred until after the duration and scope of the coronavirus crisis can be determined. This is not a time of "business as usual," and no state agency should proceed with a regulatory agenda unrelated to the pandemic until coronavirus is brought under control.

Sincerely,

Colleen Stephens
PVA President, 2020

HORNBLOWER

April 24, 2020

California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Proposed Concepts for Commercial Harbor Craft Regulation in California

Dear California Air Resources Board and Staff,

Hornblower appreciates ARB staff's collaborative approach to working with stakeholders and the one-month extension, to April 30, to allow additional time for public comment period on the proposed concepts. However, due to the extensive effects of COVID-19, which have shut down operations and necessitated layoffs and furloughs throughout the commercial harbor craft sector, we urgently request deferral of this rulemaking, at a minimum, through 2020.

Hornblower Cruises is a California based charter yacht, dining cruise, and ferry service company operating in multiple ports around the nation including California's San Francisco Bay, Sacramento, Marina Del Rey, Newport Beach, Long Beach and San Diego. We have provided vessel access and data in support the Commercial Harbor Craft rulemaking process, and we value the time and effort the Air Resources Board has invested to reduce emissions from this important marine sector.

The coronavirus pandemic has overturned the ferry and cruise industry due to stay at home orders, the proclamation of a State of Emergency, and elimination of revenues, and unfortunately having to furloughed or let go to key staff. This decrease in bandwidth has been extremely difficult and has taken away the resources necessary to adequately evaluate concepts presented in CARB's proposal. Additional time is needed to provide the specific feedback ARB is requesting regarding opportunities and constraints to retrofit and/or repower 40 vessels in California.

We greatly appreciate your understanding and hope that you will strongly consider suspending the comment period and allowing until January 1, 2021 for the affected operators to have the resources to work with ARB to develop the Commercial Harbor Craft Regulation.

Thank you again for including us in this process.

Sincerely,

Scott Smith
Vice President of Marine Operations
Hornblower Cruises and Events

SAC SPORTFISHING ASSOCIATION OF CALIFORNIA

5060 N. Harbor Drive, Suite 165
San Diego, CA 92106
(619) 760-4031

April 29, 2020

David Quiros, Manager, Freight Technology Section
California Air Resources Board
1001 I St #2828,
Sacramento, CA 95814

Ref: Commercial Harbor Craft Rulemaking

Dear Mr. Quiros,

Thank you for the opportunity to provide input on the Commercial Harbor Craft Rulemaking process.

BACKGROUND

The Sportfishing Association of California and Golden Gate Fishermen's Association represent the majority of the USCG inspected Commercial Passenger Fishing Vessels (CPFVs) in the State of California. These vessels transport seven or more passengers for hire, and based on the recent CARB webinar, we believe this will be a group directly impacted by the CARB rulemaking effort. They all maintain a U.S. Coast Guard Certificates of Inspection as Small Passenger Vessels.

From a fisheries standpoint, these vessels are licensed by the California Department of Fish and Wildlife as Commercial Fishing Vessels. Approximately 40% of them also are federally licensed by NOAA as Commercial Highly Migratory Species Fishing Vessels. This group primarily fishes for tuna in international waters.

We recognize there will be workshops in the future. In the interim, we have conducted a survey of as many of the companies as we could. The intent was to assist in your research by obtaining the following data regarding the fleet. Given the circumstances presented by the Covid-19 pandemic, participation in our survey was limited.

SURVEY STATISTICS

Number of vessel owners surveyed - 87
Approximate number of inspected CPFVs in the State – 174
Number of coastal day vessels - 41
Number of offshore overnight vessels - 46
Percentage of vessels with Tier 0 engines – 7%
Percentage of vessels with Tier 1 engines – 5%
Percentage of vessels with Tier 2 engines – 58%
Percentage of vessels with Tier 3 engines – 30%
Average replacement value – $2,275,000

INVENTORY REGISTRATION

All of the vessels surveyed with Tier 2 or 3 engines obtained them through a Carl Moyer or AQMD funding program. It can be assumed that they are already registered in your inventory system.

OWNERSHIP DEMOGRAPHICS

With regard to the ownership demographics of the vessels, they are small, family-owned businesses. Throughout the state, the fleet is separated into two distinct groups; coastal day boats and overnight offshore boats. Most have a capital loan out on the vessel.

With few exceptions, the coastal day boat group has Tier 2 or 3 engines. The offshore vessels have Tier 0, 1, or 2 engines. We are working to continue contacting all of the remaining boats in the fleet to determine specific numbers.

ECONOMICS

Economically, the profit margins for these companies are slim, making it difficult to repower without outside funding. The Carl Moyer Program and AQMD Programs have been important to the voluntary effort to repower the coastal boats. A common comment made during our survey efforts was that without those resources, vessel owners would not have been able to afford to repower their vessels.

COMMENTS RECEIVED DURING SURVEY

- The California Maritime Academy report raised several concerns including the negative impact to the average sportfishing vessel due to the unavailability of Tier 4 engines, the inevitable loss of passenger carrying capacity and consequential vessel instability.
- There was concern that, economically, very few companies could afford to repower or replace their engines and meet their existing boat payment obligations.
- A common theme expressed was that if this rule goes into effect, the result will be most CPFVs will be out of business within three to six years.
- The fleet mechanic and engine manufacturers were concerned with the engine heat generation and the hazard of fire aboard wood or fiberglass vessels. In light of the Conception fire incident, the USCG is carefully monitoring any changes to these vessels pursuant to Subchapter T of the Code of Federal Regulations.
- While it was stated in the webinar that the USCG had been engaged, the USCG inspection command is unaware of this process. Will they be consulted during this rule making process earlier rather than later?
- Consult the USCG Inspections Command in Alameda, CA to determine if they will permit Tier 4 engines on CPFVs.
- Clarify the term "sportfishing vessel" and use the Commercial Passenger Fishing Vessel term to eliminate confusion.
- Provide extensive outreach to the sportfishing community to explain the intent and impact of what is proposed.
- Determine how many companies will go out of business.

SURVEY RESULTS - SYNOPSIS

1. The goal to reduce emissions in the State of California is being accomplished efficiently and with substantial success as prescribed in the current rule regarding Commercial Fishing Vessels.
2. The survey indicated almost all of the vessels that operate on the coast have repowered to Tier 2 or 3 engines through grant funded projects. Based on the owners' comments, it is unlikely that they will be able afford to repower again without access to funding. It is recommended that this group continue to be classified as Commercial Fishing Vessels so they can then afford to upgrade to Tier 3 engines voluntarily through funding programs. Absent grant funding, the owners plan to rebuild their existing engines.
3. Based on the Cal Maritime Report, accommodating a Tier 4 engine creates a severe financial impact for business owners due to a forced reduction of passenger capacity. Additionally, the safety and stability of vessels would be compromised. The profit margins of sportfishing charters are tight. It would not take much to permanently shut down an operation. The harm in loss of jobs alone would be significant.
4. Engine installation professionals are concerned by the high amounts of heat produced by Tier 4 engines and the hazardous effect they can have on wood and fiberglass vessels. There needs to be a complete study on the impact of such installations solely from a safety standpoint. The Conception fire has resulted in an extensive need to study heat impact aboard vessels. Every passenger vessel in the United States has been undergoing extensive inspections due to this incident.
5. We believe that the offshore vessels that transit state waters in route to international or foreign waters should not be part of the Harbor Craft Rule. They are easy to identify as they are permitted by NOAA as Highly Migratory Species vessels. They operate on the high seas and have minimal impact on the states air resources transiting to the harbors due to the North to NNW wind that prevails on approach to, primarily, San Diego.

RECOMMENDATIONS

The following initial recommendations are provided based on what we have learned to date through the survey:

1. There is confusion in the sportfishing industry about who the Harbor Craft Rule applies to. This is due to conflicted terms involving a Commercial Fishing Vessel, sportfishing charter vessel and Commercial Passenger Fishing Vessel. It is recommended the Harbor Craft Rule proposal classify the targeted fleet as "Commercial Passenger Fishing Vessels". This is the consistent accepted term used by the permitting agencies of the State of California Department of Fish and Wildlife, the United States Coast Guard and the NOAA National Marine Fisheries Service. We believe the result will be increased compliance in engine reporting.
2. Absent a grant funding program, most vessel owners will choose to rebuild their existing engines instead of replace them. Tremendous progress has been made in emissions reductions by permitting these vessels to apply for grant funding. In order to be permitted to apply for grant funding, the vessels need to remain in an exempted state with regard to the rule. To attain this, we recommend the "Commercial Passenger Fishing Vessels" be included within the Commercial Fishing Vessel category.
3. We recommend and analysis be conducted regarding the economic impact of the proposed rule if Tier 4 Engines or similar are required without grant funding. Based on our review, the impact it would be significant. The conclusion of many owners is it would result in the loss of most of the companies.

The above recommendations, we believe, would meet the goal of emissions reductions. Vessels would be repowered with more efficient engines as they are developed. There would also be a funding source and no loss of business or jobs.

We look forward to participating in the workshops once they are announced. Our office is available to be a resource to communicate to the fleet as this process moves forward.

Please do not hesitate to contact us if we can be of service or ~~to~~ answer questions.

Sincerely,

Ken Franke
President
Sportfishing Association of California

Comments on Proposed Concepts for Commercial Harbor Craft in California 3.18.2020

Chrissy Edmiston

Port Steward, Richmond: Sause Bro's.

Below are my comments, questions & concerns regarding the proposed concepts. Overall, I think CARB's efforts would be better placed towards new builds (say, after 2025), rather than attempting to retrofit or replace over 4,500 vessels in the next few years.

1. Echoing Ross' concerns regarding labeling:
    - *No labeling required in existing regulation but other CARB regulations require labeling & currently no common identifier for all CA vessels*
        - No, but not all "harbor craft" operate solely within California waters. Would this require every vessel that comes in under these proposed regulations to affix a number to their hull?
    - *CARB would issue ID for vessel owner/operator to affix or paint onto vessel; Anyone could look up vessel compliance status on future CARB electronic reporting system*
        - Echoing Ross: Unnecessary.
        - Could they not just look up the registered ship name, or ID#?

2. CARB authorized by HSC 43019.1 to adopt a schedule of fees to cover compliance costs
    - *Fee amount based on estimates of CARB personnel, equipment and operational costs*
        - Would appreciate insight into the "cost of implementation and enforcement".
            - How many additional staff would be hired (and for what?)
            - What equipment is necessary for purchase?
            - What operational costs
                - (Processing vessel reports, outreach, processing & approval of extensions, & actual regulation).
            - Would it be possible for fees to be distributed back to vessel owners/operators or facilities to support shore power regs?
            - How will fees be assessed? (By # of hours in California? By size of fleet?)

3. Trying to make sense of what ARB is saying with regard to ACTs…

"Repower with engines that meet a performance standard equivalent to the cleanest available marine standards (Tier 3 or Tier 4 below 600 kW, Tier 4 above 600 kW) plus a diesel particulate filter (DPF). For repower of engines below 600 kW, if there is a suitable engine model certified to Tier 4 marine standards available at the time the engine order is placed, then a Tier 4 engine must be used;

Use an alternative Complying Technology (ACT) that CARB has pre-approved to meet PM and NOx standards equivalent to Tier 4 + DPF. This provision would carry forward the existing provision that allows use of complying alternative technologies that CARB maintains current on its web site . ACTs today only include strategies for complying with Tier 2 standards. ***In the future, ACTs could include approved technologies or combinations of technologies including cleaner fuels, hybrid systems, shore***

power, or other innovative control strategies. *The in-use performance standards that must be met are 0.01 g PM/bhp-hr and 1.3 g NOx/bhp-hr, which is equivalent to the most stringent Tier 4 PM marine standard plus a DPF"*

- So is the ACT option even available for tugs then, since ACTs today only include strategies for complying with Tier 2 standards, and tugs have to be at Tier 3 + DPF or Tier 4 + DPF under the proposed concepts? If so, this seems limiting for tug companies…
- "In the future"? But regulations go in place 2023?? Doesn't seem like enough time to come up with additional approved CARB technologies…

4. *Enhanced Efficiency Diesel-Electric New Tugs January 1, 2025*
    - What are "new tugs" in terms of date? What if a "new tug" is being built in 2020? It then has to be retrofit in 2023?

5. *If a vessel in an applicable category cannot comply with a repower/retrofit, the vessel would need to be replaced to continue operating in California. The vessel operator would have up to six additional years beyond the initial engine compliance date to replace the vessel if they demonstrate both that Tier 3/4 + DPF is not technologically feasible for the vessel and they have demonstrated financial hardship and are unable to pay for compliance by the initial engine compliance date. Details on the compliance extension process are included Concept VIII.*
    - Why 6 years??? Based on the # of vessels companies have to replace, I would expect it would take much more than 6 years to have everyone onboard & have all vessels replaced…
    - Sause does not put out boats this quickly – boats can take months – years
    - Is this 6 years for ALL fleet to be "replaced" if needed?
    - Looking alone @ costs by vessel type (Cal Maritime Feasibility Study…)
        - Push Tug
            - Equipment Purchase + Installation Costs for Repower with Tier 4 Engines $1,021,000
            - Equipment Purchase + Installation Costs to Retrofit with DPF + SCR $529,000
            - Equipment Purchase + Installation Costs to Retrofit with DPF $472,000
            - Average Vessel Replacement Cost $6,000,000
                - (6 years doesn't seem like enough time to raise this type of funding for a fleet…)

"However, compliance extensions are intended to be a last resort, therefore need to be substantiated by feasibility analysis showing that no amount of modifications or reconfigurations are technically feasible to accommodate required engines and DPF after treatment, and that the only possible option to comply would be to build a new vessel. CARB staff is still evaluating and seeking input on how extensions would be granted if Tier 3 or 4 engines are feasible, but retrofit DPF after treatment is not feasible."

- Looking again at that 2023 compliance date… does this consider that: *"CARB estimates that over 4,500 engines would need to apply a compliance option that*

would result in retrofitting or repowering engines." ???? Where are all of these vessels going in to get (a) retrofit/DPF's added or (b) where are all the new vessels being built????

6. Quoted from CARB:

CARB staff is proposing that facilities would be required to allow, and in some cases would be responsible for, the installation and maintenance of on-site infrastructure to support harbor craft that use zero-emission and other advanced technologies.

…Therefore, CARB staff does not propose that facilities should be responsible for installing zero-emission infrastructure at this time. However, CARB staff proposes to require facilities to allow their tenants, the owners or operators of harbor craft, to install necessary infrastructure for their operations.

- In what cases is the facility responsible??? It seems contradicting to say that they may be responsible, but to then say CARB does not propose that the facilities are responsible….

CROWLEY®
People Who Know®

29 April 2020

California Air Resources Board
Attention: Clerk's Office
1001 I Street
Sacramento, CA 95814

California Air Resources Board,

On behalf of Crowley Maritime Corporation ("Crowley"), thank you for the opportunity to comment to California Air Resources Board ("CARB") regarding the Proposed Concepts for Commercial Harbor Craft in California ("Harbor Craft Concepts"). Crowley applauds CARB's leadership in the stewardship of California's air quality. In particular, Crowley appreciates CARB's recognition that the U.S. domestic maritime industry's fleet plays a substantial role supporting the economies of West Coast states and the livelihood of their citizens, including those of California.

Crowley owns and operates a diverse fleet of oceangoing vessels and harbor tugboats and offers a wide range of environmentally safe and reliable transportation options to meet many commercial and government customer requirements. Crowley maintains an extensive fleet of large petroleum Articulated Tug Barge Units ("ATBs") ranging in size from 20,000 deadweight tons ("DWT") to 45,800 DWT that safely and reliably carry petroleum in bulk throughout the U.S. East, Gulf and West Coasts, including Alaska, as well as international ports. Crowley ATBs regularly call California ports. Crowley companies also operate a fleet of harbor tugboats that dock, undock and escort ocean-going ships servicing the San Francisco Bay area, the Los Angeles-Long Beach area, and San Diego. Because of Crowley's extensive experience with vessel operations across a broad range of vessel types, many of which are covered in the Harbor Craft Concepts, we believe that Crowley is uniquely positioned to submit these comments to CARB.

Document Three of the Harbor Craft Concepts raises a series of questions related to costs and timelines for compliance with the proposed standard, alternative control technologies, compliance extensions, idling and shore power requirements, infrastructure, reporting, and fees. Crowley's comments on those topics are outlined below.

COMPLIANCE COSTS

Feasibility Study

The cost of compliance should include the cost of a feasibility study. A study assessing the technical feasibility of retrofitting or repowering a vessel would typically address the impact of proposed vessel modifications on three primary issues:

1. Arrangements - assessing space and volume constraints to determine if required net changes (removals and additions) fit reasonably within the vessel hull and/or superstructure boundaries and will comply with safety regulations, such as fire suppression and load line regulations.

2. Weights and Stability - conducting an upper level review of estimated net weight changes, structure and added equipment, against fixed vessel stability limits; and

3. Auxiliary Systems Capacity - establishing the capacity of engine room ventilation, generating plant, and main engine cooling to support added loads.

The budget for this kind of study would, on average, be approximately $10,000, representing 60-80 hours of engineering effort per vessel class. The Harbor Craft Concepts affect numerous classes of vessels. The outcome would be a report establishing the overall feasibility, usually dictated by firm weight and stability limits, with an overview of the required modification scope and rough order of magnitude of the modification cost for a vessel class.

Retrofit Costs

This table includes estimated costs for retrofitting Crowley owned or operated ATBs and harbor tugboats to meet the equipment standards outlined in the Harbor Craft Concepts.

	150,000 Barrel ATB Unit: Barge	150,000 Barrel ATB Unit: Tugboat	180,000 Barrel ATB Unit: Barge	180,000 Barrel ATB Unit: Tugboat	Harbor Tugboat
Engines and Attachments	$2,800,000	$3,950,000	$1,800,000	$4,350,000	$3,800,000
Engineering and Certification	$100,000	$100,000	$100,000	$100,000	$45,000
Installation	$400,000	$1,000,000	$200,000	$1,000,000	$1,000,000
Out of Service	$600,000	$600,000	$600,000	$600,000	$320,000
Per Vessel Cost	$3,900,000	$5,650,000	$2,700,000	$6,050,000	$5,165,000
Fleet Count	4	4	10	10	7
Fleet Cost	$15,600,000	$22,600,000	$27,000,000	$60,500,000	$36,155,000

Replacement Costs

Crowley estimates the replacement cost for current ATBs and tugboats at:

- $90MM for one 150,000 barrel ATB or $360MM to replace the existing 4-vessel fleet
- $105MM for one 180,000 barrel ATB or $1,050MM to replace the existing 10-vessel fleet
- $17MM for one harbor tugboat or $119MM to replace the existing 7-vessel fleet

General Comments on Cost

The initial phase of the Commercial Harbor Craft regulations issued in 2007, along with the 2010 amendments, included numerous requirements for operators to upgrade or replace existing equipment. CARB's existing Commercial Harbor Craft rule, therefore, which came into effect roughly a dozen years ago, caused operators to retrofit or acquire equipment that is typically amortized over a 20-year period and may last for 25 or 30 years. During those rulemakings, the cost reasonableness of making such investments was taken into consideration and a potential concern was raised to CARB that it was foreseeable that the "goal posts" might be shifted, i.e., new requirements might be proposed after operators incurred the costs of complying with the 2007 and 2010 requirements. Now, the Commercial Harbor Craft Concepts demonstrate that this concern, raised over a decade ago, was indeed justified with respect to potential early retirement of vessels or equipment driven by implementation of future new rules.

TIMELINES

Feasibility Study

Conducting a study of the feasibility of retrofitting a vessel to meet the equipment standards outlined in the Harbor Craft Concepts (scope described above) would, we estimate, take two to three weeks.

Retrofit

Crowley estimates that a retrofit-repower of a 150,000-180,000 barrel ATB unit or of a harbor tugboat would take approximately forty days, assuming that all materials were staged and ready at a shipyard at the outset of the forty-day period.

Newbuild

Crowley estimates that it would take between two and three years from the time that a decision is made to build a new 150,000 or 180,000 barrel ATB until the keel is laid for that vessel, and an additional two years from keel laying to delivery of the vessel. For a harbor tugboat, Crowley estimates that it would take two years from the time that a decision is made to build a new vessel until delivery of the new vessel.

ALTERNATIVE TECHNOLOGIES

ATB

Because ATBs spend most of their operational lives outside of California harbors, shore power or emissions capture from the vessels while at berth are alternative technologies that could significantly reduce ATB emissions while in California.

Other alternative technologies, such as hybrid-electric systems or hydrogen fuel systems are not yet mature enough to meet the needs of ocean-going vessels, such as ATBs.

Harbor Tugboat

Diesel electric technologies are currently viable emissions reduction technologies for harbor tugboats. Other technologies, such as ammonia or hydrogen powered fuel cells or internal combustion engines, are not yet mature enough to meet the power needs of harbor tugboats.

EXTENSIONS

If a naval architect's analysis shows that Tier 3 or 4 engines are feasible for installation onboard a vessel but a retrofit diesel particulate filter (DPF) is not, we submit it is appropriate to grant an extension of the DPF requirement indefinitely. It is not reasonable to require equipment that is not feasible for use on a vessel, nor is it reasonable to require an operator to incur the cost of upgrading to a Tier 3 or 4 solution if the upgraded vessel will subsequently have a limited service life, because it cannot be retrofitted with a DPF.

Periodic equipment availability reviews could and should be conducted by CARB to assess when there are enough DPF retrofit models available to warrant sun-setting of any extensions.

SHORE POWER

Unequal Requirements for Vessels Conducting the Same Operations

It appears from the Harbor Craft Concepts that harbor craft would be required to be outfitted: (1) with shore power connections for auxiliary engines (except operation of direct-drive or other specialty auxiliary engines); **and** (2) to meet the Tier IV and diesel particulate filter requirements.

With respect to ATBs, it is not at all clear why an ATB would be subject to these dual requirements while other ocean-going tank ships – calling the same terminals and conducting the same operations – would only need to be outfitted for shore power or emissions capture.

Infrastructure Cost Allocation

The Harbor Craft Concepts appear to outline a framework whereby vessel operators would, in certain circumstances, be required to install shoreside infrastructure. The rationale CARB provides for this argument is as follows:

> *The installation and maintenance of such infrastructure can require investments that require cost recovery over a period of time that exceeds the length of lease terms. If the tenant with a particular vessel no longer visits the facility, it may result in stranded assets for the facility. There is a higher likelihood of stranded assets for harbor craft because technology is becoming commercialized, but is not yet standardized.*

It is not clear why CARB believes that it is preferable for vessel operators to bear the burden of shoreside infrastructure that cannot be used for its intended purpose over the full service life of that infrastructure.

If a vessel operator installs infrastructure at a facility and the lease expires before the service life of that equipment is over, then the vessel operator's assets – the shoreside infrastructure that the operator installed – may not be available to the operator. In this case, the operator will not even have access to the asset that it paid to design and install. Indeed, depending on the lease provisions, the operator may even be required to pay to remove the infrastructure at termination of the lease.

CARB has essentially outlined a model whereby a vessel operator could be bound to install infrastructure at a facility that the operator does not own, and to which the operator would not be guaranteed use for the infrastructure's service life.

Vessel operators will, in many cases, be required to install equipment on their own vessels to be able to use shoreside charging or other energy-supply infrastructure. It seems reasonable for the vessel operator to pay for what will be installed on the vessel and a facility operator to pay for what will be installed on a facility. In this model, risks are borne by both parties.

CARB proposes a requirement for installing infrastructure for harbor craft shore power or to support zero-emission vessels (such as hydrogen fueling and rapid charging infrastructure). Vessel operators will need to coordinate closely with the actual owner of those facilities to meet these requirements as, in most cases, the facility owner is not the vessel operator. The installation of equipment and infrastructure on a terminal will thus be a matter of commercial negotiation between landlord and tenant which should not be subject to this regulation. If a riskier technology is installed on a terminal or berthing facility, it should be up to the landlord and the tenant to allocate the cost and risk and include commercial terms that address amortization and knockdown.

REPORTING

CARB asks for input on how, beside facility reporting, the agency can increase the percentage of vessels that are reporting to CARB as required.

It is not clear from the analyses CARB has presented in the proposed concepts that there is indeed a material reporting shortfall. It is not evident that the problem CARB attempts to identify with its facility reporting concept, is actually a problem.

FEES

If a fee were required, it seems practicable to charge vessel operators by vessel category, weighted by the presumed amount of time operating in California harbors. Those vessel categories that operate principally outside of California harbors, then, would bear less cost than vessels in categories that operate extensively inside California harbors.

Yours respectfully,
CROWLEY MARITIME CORPORATION

Art Mead
Vice President & Chief Counsel
Government and Regulatory

April 30th, 2020

David C. Quiros
Manager, Freight Technology Section
Transportation and Toxics Division
1001 "I" Street
Sacramento, CA 95814

Re: Proposed Concepts for Commercial Harbor Craft in California

Dear Mr. Quiros:

We appreciate the opportunity to comment on the "Proposed Concepts for Commercial Harbor Craft in California." Foss Maritime is a 131-year-old company that provides comprehensive marine transportation and logistical services from local harbor services throughout North America and the Hawaiian Islands. This includes ocean towing and project support in extreme environments throughout the world. Foss Maritime's Pacific Northwest shipyard in Seattle, Washington offers a wide range of services from naval architecture and marine engineering to vessel design, construction, and repair. Foss is committed to reducing its carbon and emissions footprints and adhering to the principles of sustainability and safety in its operations. Foss has taken the lead in our industry to aggressively pursue opportunities to reduce emissions and work our environmental values into all our strategies.

It is our sincere desire to be a constructive participant in the rule making process and provide comments that will enable CARB to form meaningful regulations that promote the goal of cleaner air without doing irreparable damage to an industry that all Californian's rely on to deliver and support the delivery of their essential goods and services. Our experience with the first Hybrid Tug technology deployed in California waters and the first conversion of a conventionally powered vessel to Hybrid technology makes us uniquely qualified to comment on the concepts proposed by CARB. Our comments follow the table of contents for your Proposed Concepts Commercial Harbor Craft (CHC) Regulations.

Concept I: Expanding Vessel Categories Subject to In-Use Requirements
We want to be clear that we concur with CARB's reasoning and support the exclusion of the commercial fishing vessels from the proposed regulations. However, we would ask CARB to consider that those same points can be made about other vessel categories that are included in the list of regulated CHC. Under the heading of Justification/Reasoning, CARB sites their reason for not including commercial fishing vessels, as: "the small profit margins in the industry, demonstrated lack of feasibility for Tier 4 repowers and retrofits , competition with out of state and global markets, and tendency to conduct the majority of their operations far from the coast." All these points can be made regarding tank barges over 400 feet and 10,000 gross tons and the tugs that tow them. These vessels operate in stiff competition to both international tankers that are able to move supply to and from foreign ports, US ocean going tankers that are exempted and trucks and rail that while regulated by CARB present a much

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higher emission profile per ton of cargo moved than their marine counterpart[1]. Further their routes are those of ocean-going vessels and not CHC, and we feel they should not be unduly burdened with regulations that don't apply to their competition.

It is our belief that CARB should determine the applicability of the CHC rules based on the service the vessel is performing, rather than generic classification of the vessel. We would propose the following amendments:

- *A vessel engaged in ocean voyage or a barge engaged in ocean voyage shall be exempt from the CHC rules. The following shall be the criteria for defining an ocean voyage exempt from regulation under the CHCRs.*
  - *A tug and loaded barge, whose arrival or departure is transporting a cargo with the destination outside of the load ports line of demarcation and beyond the 24nm control zone.*
  - *A lite tug and barge, whose arrival or departure is for the purpose of loading a cargo with a destination outside of the load ports line of demarcation and beyond the 24nm control zone.*
  - *Any moves or engine hours within the line of demarcation that is solely for the purpose of preparing for an ocean voyage as defined above.*

  So long as the vessels movements comply with the criteria above, they will not be required to comply with the CHCR, nor count any hours against the low-use operational requirements of the regulations.

We believe adopting the service-based criteria above will ensure that barge moves that are clearly ocean voyages are not unduly burdened versus other modes of transportation that serve the same markets. This would also preserve the intent of the CHCRs to ensure that vessels performing services inside of the regulated control area are subject to the regulation.

Concept II. More Stringent In-Use Requirements

Foss has a long history of working with CARB and other agencies to reduce the air emissions from our fleet ahead of regulatory requirements. This includes:

- Rebuilding existing engines with EPA compliant Tier 1, Tier 2 and Tier 3 kits.
- Re-powering vessels with new Tier 1, 2 and 3 engines.
- Building a new Hybrid powered ship assist tug, the CAROLYN DOROTHY.
- Converting an existing conventionally powered tug to a HYBRID powered tug, CAMPBELL FOSS.
- Adding Carbon Filtration to our bunker barge fleet to capture hydrocarbons during loading operations.
- Burning Ultra Low Sulfur Fuel Oil in advance of the regulatory requirement.
- Completing a Tier 4 Harbor Assist Tug in 2020 with three to follow in 2020/2021 replacing tugs that are tiering out due to the current CHCRs, but not done with their useful life.

Not counting the assistance funds from the Carl Moyer Program, CARB and federal grants Foss has made an investment in excess of $50 million dollars to ensure our fleet remains among the greenest in operation.

[1] All Figures adapted from Texas Transportation Institute, "A Modal Comparison of Domestic Freight Transportation Effects of the General Public: 2001-2014," January 2107, as reflected in the PricewaterhouseCoopers industry study.

Through all these projects we have learned many lessons about what works well and what does not. The key to every successful project is having a complete understanding of the technology we are working with, using proven components, taking the time to properly engineer and plan the project and being able to operate the vessel long enough after the modifications to offset the capital expense of the project. These lessons learned inform our comments below.

Marine Harbor Craft applications are unlike the shore-based power installations that CARB draws parallels in justifying the requirement for DPFs. Specifically stating that DPFs are "widely commercialized and proven technology on light-duty and heavy-duty equipment that has been used on-road, off-road and in port applications." The evidence contradicts this comparison. Concern is that to date there has been little marine application of DPFs. The size of our engines and available space for installation makes a DPF installation extremely difficult. The back pressure created by a DPF on the exhaust system may exceed the tolerances of many of our existing or future engines to properly operate. Many, if not all our vessels currently have no OEM approved DPF available for the engines. Until one is available, and its characteristics defined, we cannot begin the process of determining if it is feasible to operate with a DPF.

The application of DPFs will also have to consider that the duty cycle of a marine vessel, is unlike that of on-road, off-road or port application equipment. As noted in CARBs proposed concepts "escort and harbor assist tugs have a highly variable duty cycles operating with relatively larger engines but lower average loads . . ." Additionally, our vessels also use their engines as the primary mode of braking and often maneuvering. Doing so requires the rapid acceleration and deceleration of the engines. Operators do not have the luxury of shore-based equipment that can maintain a much more moderate increase of power through multi-ratio transmissions and the gradual application of fuel. On vessels, power is often needed immediately to avoid collision, allision or losing propulsion. Overloading the propeller and stalling the engine is a real risk when maneuvering in tight quarters. For this reason, the manufacturer provided fuel curves must be very dynamic, considering the variable nature of the load requirements of the engines. This variable engine loading is exactly the situation that has caused many of the issues, including fire and premature failure, that other industries have experienced when they attempted to incorporate the use of DPFs.

The process of repowering or modifying the propulsion or power generation plants of a marine harbor craft takes years to plan, obtain regulatory approval and execute. The planning and engineering must begin years prior to commencing the work and even relatively simple changes must be evaluated against the impact to the vessel's stability, maneuverability, available space and watertight integrity. Each component's specifications, characteristics and operating parameters must be known far enough in advance to ensure a thorough design review and engineering process that can take place. Engineering can take from 3 to 9 months depending on the complexity of the project. Many projects will also require the approval from the vessel's Class Society or the USCG, which can add months to the timeline. It can then take an additional 3 to 6 months to identify a shipyard and negotiate a contract for the modifications. When you add this up, the process must begin years before the work is to be done, and the process can only begin when all the equipment that is to be used has been approved and accepted for the purpose.

The costs identified in the California Maritime Academy report do not reflect the entire financial impact of performing these modifications. With only a few tugs in our regional fleets, losing a single vessel has significant economic impact either in lost revenue or in the cost of sourcing a temporary replacement tug. While each situation is unique, a conservative cost would run well above $5,000 per day. With a

conversion from Tier 2 to Tier 4 engines taking upwards of 2 months, the cost to the company will be 100's of thousands more than those captured in the CMA report. To minimize the downtime our engineering teams will generally begin the process years in advance, with work timed to ensure the modifications can be completed during one of the vessel's scheduled yard or other planned maintenance periods.

With all these challenges in mind, we encourage CARB to consider modifying their proposed rules as follows:

- *Expanding the implementation dates to better recognize the investment owners have already made to comply with previous regulation. We would ask CARB to adjust their implementation dates to allow any engine that is currently in compliance to be able to operate at least 20 years from the date it went into service without modification. For instance, Foss has a new vessel currently under construction that under the current proposal will be required to have DPFs installed by 2028, less than 8 years after it was built. A modification that was not foreseen during the design and planning stage of the vessel.*
- *Additionally, any engine modified to comply with the current regulation should be allowed 15 years at a minimum, from the date it was modified, before being compelled to comply with the new CHCR.*
- *Delay the implementation date for installation of a Diesel Particulate Filter (DPF) to 5 years after a model approved by both the manufacturer and appropriate regulatory authority is available. Only when the exact characteristics and specifications of a DPF are known can a company begin the engineering and planning necessary to determine if the project is feasible and then schedule a time to do the work.*
- *Tugs where it proves infeasible to install a Tier 4 engine and a DPF will be considered in compliance if they are Tier 2 or Tier 3, with a DPF.*
- *Company's should be afforded the ability to defer projects in one-year increments beyond the implementation date to avoid having to manage multiple projects in the same year.*

Concept III: More Stringent Requirements for New-Build Vessels

New-Build construction allows us to overcome many of the hurdles present in the conversion of an existing vessel. However, new builds are not without their challenges. Most notably, a new build program is part of a company's long-term strategic plan, designed to meet their customers' needs and remaining competitive in the market. Vessel designs are completed years in advance, with the actual construction process taking more than a year to complete. Most build programs involve the delivery of multiple vessels allowing the owner to take advantage of the lower cost series construction and reduced operating costs associated with having a homogenous fleet. Common spare parts, similar repair procedures and common operating characteristics all helps to make an operation more efficient. Changing vessel plans in the middle of a build program can be costly and disruptive to the company's ability to successfully compete. As stated in the concept document, CARB's vision is that "New build vessels can be designed around the cleanest available equipment and present the best opportunity for cost-effectively reducing emissions from harbor craft in California." If owners are expected to meet this vision, we would ask that they be given the time necessary to incorporate the final rule into a well thought out build strategy.

To do this we would encourage CARB to consider the following comments/recommendations to their proposed concepts:

- *Set the implementation for the requirement to install a Diesel Particulate Filter (DPF) to 5 years after a model approved by both the manufacturer and appropriate regulatory authority is available. Only when the exact characteristics and specifications of a DPF are known can a company begin the engineering and planning necessary to determine if the project is feasible and then schedule the time to do the work.*
- *Any vessel completed before this point should be allowed to operate 15 years before being asked to re-engineer and add the DPF.*

Concept IV: Mandates for Zero-Emission and Advanced Technologies
As with Concept III, a technology change of this type will take time to plan and incorporate in existing vessel designs. To facilitate this process, we would ask CARB to consider the following comments:

- *Extend the phase in date to 5 years after the rule goes into effect. This will allow companies the time to properly transition their build programs to incorporate the new technology.*
- *Clarify the phase in date as the "Keel Laying Date", defined in 46 CFR 30.10-37.*
- *Clarify the expectation. Currently the documents reference a specific technology employed by one tug company. There are many competing technologies that achieve the same effect. What will be the test for a compliant system?*
- *Can you clarify under the Zero-Emission Capable Hybrid, would a company be allowed to average the percent of power from zero-emission sources over 24 hours? In other words is it CARBs intent that at all times and in all modes you must be drawing 30% of your power from non-tailpipe emission sources, or just that 30% of the power you use over a period of time comes from non-tailpipe emission sources?*

Concept V: Removing Exemptions for Under 50 horsepower
Vessel's carry several "portable" engines for a variety of purposes. These include trash and salvage pump motors for dewatering compartments and outboard motors for skiffs.

- *Can you clarify if it is CARBs intent to have these engines fall under the CHCR?*

Concept VI: Requiring Replacement Vessels for Certain Vessel Categories
Tug and Barge owners have in good faith built and designed vessels in compliance with federal, state and local laws and regulations. A jurisdiction should not be able to enact a new set of regulations that prevent an owner from realizing the benefit of their investment. We would ask CARB to consider the following comments:

- *As stated in our comments under Concept II we would ask that no vessel be required to modify an engine sooner than 20 years from the date it first went into service. If at that time an owner can prove both that the upgrade is not feasible and that it would present a financial hardship to meet the date an extension would be granted.*
- *As stated in our comments under Concept II any engine modified to comply with the current regulation be allowed 15 years at a minimum from the date it was modified, before being compelled to comply with the new CHCR. If at that time an owner can prove both that the upgrade is not feasible and that it would present a financial hardship to meet the date, an extension would be granted.*

Concept VII: Compliance Extensions
While we concur with the need for extensions as it is not only likely but almost certain that there are vessels within the current harbor craft fleet for which it will not be feasible, nor financially sustainable to

comply with the new regulations. The challenge will be in defining the very subjective terms of "feasible" and "financial hardship". We offer the following comments.

The determination of what is or is not feasible often bleeds into what is or is not financially viable. In the CMA study they found that it was not feasible to retrofit a SCR and DPF on the representative ship assist tug. However, their conclusion was based on the amount of work that would have been needed to be done to modify the vessel to safely house the systems. Simply put, it would not be practical because the cost would far exceed the value of the modifications.

CARBs intent to assess financial hardship of complying with a regulation, based on the financial health of a company is fundamentally the wrong approach. The effect of such a methodology would be to potentially prop up companies that are struggling financially by allowing them to avoid regulation and gain an economic advantage over companies that are financially sound. Regulators should not be in the position of bailing out companies, but rather they should strive to create an equitable regulatory regime. We would argue that financial hardship should be measured in the impact on an assets ability to compete. If due to the vessel's design or configuration the modification required to comply is so expensive that performing the modification would render the vessel too costly to be profitable then relief should be given in the form of an extension. In order to achieve an equitable measure of both the feasibility and hardship measure, we would ask you to consider the following revisions:

- *Modifications whose estimates, as verified by a yet to be determined third party or agency, exceeds the High Estimated Cost as offered in the CMA Report, and adjusted for inflation, would be granted an extension.*

This would provide a much simpler and more equitable approach to granting extensions and would be like the methodology used in the CMA study.

Concept VIII: Alternative Compliance Pathways

We need a defined submittal plan, requirements and package to access and comment effectively on this concept. Under the existing regulations we petitioned CARB to recognize that the emission profile for the Hybrid Tug CAROLYN DOROTHY was already favorable to that of a vessel with the Tier Engines to which we were being required to upgrade. As explained to us, CARB was unable to look at emissions over time as the offset to point of time emissions.

- *Has CARB changed their position on this issue, and will they be willing to look at 24-hour profile versus a point of time approach?*

Concept X: Proposed Implementation Timeline

- *See comments under Concept II & III*

Concept XI: Idling Limits and Shore Power Requirements

Foss Maritime supports the idea of minimizing idle time as a way of reducing unnecessary emissions. Further we feel 15 minutes is adequate time to perform a proper start-up and shutdown, except where a watch change has occurred and the individual responsible for the machinery must ensure everything is running properly. We offer the following comments and questions.

- *Is our read that the initial daily startup allows for an additional 15 minutes, for 30 minutes total. If so, we would ask that the wording be changed to recognize that a watch change would constitute a new work period.*

- *We are concerned by the unintended consequences this might have on finding adequate lay berths. Unlike ferries we do not transit between two docks that are dedicated to our service. Outside of our home dock, we have arrangements with several facility owners to utilize their docks in between ship jobs and barge moves. Most of these locations do not currently have infrastructure to provide shore power connections, so while we can shutdown our main engines, we must still run our generators. We believe most of these operators will deny us the ability to dock, rather than make the investment in shore power or deal with the increased regulatory burden. There is simply not enough money in it for them to make that type of investment. This will force us to idle in the harbor between jobs or return across the harbor to our home dock increasing our fuel burn and emission output. We suggest CARB look at an incentive-based program for facilities to get credit for providing shore power infrastructure to the Harbor Craft vessels.*

Concept XII: Facility Infrastructure

We have similar concerns about the requirements of this concept driving facilities away from providing moorage to Harbor Craft. We currently struggle to find suitable locations around the ports in California to moor our vessels. Most port operations are looking to maximize their waterfront space on cargo and other high revenue generating activities. While moorage for Harbor Craft is essential to the port economy, it is often lost on the individual facility operator. As mentioned in our comments under Concept XI, we worry this will drive more and more facility operators away from offering moorage.

Concept XIII: Reporting – Facilities

As with Concept XI and XII the additional burden of reporting will likely have a negative impact on those facilities willing to rent or lease space to harbor craft. *Our recommendation is that negative impact on our CHC's ability to tie up and reduce emissions will offset any potential upside to CARB of finding potential non-reporters.*

Concept XIV: Reporting – Operators

In general Foss Maritime does not take issue with the increase in reporting requirements, so long as it does not come with an unnecessary administrative burden. To that end we request CARB consider the comments below:

- *In developing the form for input, care should be taken to ensure data can be uploaded in batch or bulk form from a database or spreadsheet. We would be opposed to an annual reporting requirement that involved filling in the individual fields for each vessel in our fleet, creating hours of unnecessary work.*
- *We have concerns with the switch to engine model year, which does not reflect accurately how long the engine has been operated or how long the owner has had to recoup his investment. We would much prefer CARB use the initial in-service date as the baseline for determining any implementation dates for that engine.*
- *We believe CARB misunderstands the term Home Port. Home Port or Hailing Port as defined in the CFRs is "the name of the port from which a vessel hails, required by law to be painted on the stern of all documented vessels in the United States; the port in which the managing owner of the vessel lives, or which is nearest to his place of residence; the home port of a vessel." It is not intended to indicate where a vessel is being operated. CARB may want to ask that specific question.*

Concept XV: Vessel Identifiers
We recognize that properly tracking vessels is a critical part of implementing any regulation. And while it is true . . . "There is currently no single identifier that can be used across all vessel types…" every vessel covered by the regulation will have either an Official Number, IMO Number or CF Number that will be unique. *Our recommendation is that vessels be required to provide CARB one of these numbers for tracking and those vessels that are not already required to display their chosen identification number, could be required under the regulation to do so.*

Concept XVI: Opacity Testing
The proposed rule is unclear in the method of testing that will be used for Harbor Craft. As described earlier in our comments, Marine Harbor Craft have a highly variable duty cycle. Engines must be tuned such that they can successfully accelerate and decelerate to provide the vessel with the power, maneuverability and braking necessary to safely operate. The text of the Concept suggests that CARB would like to test during the transitional phase of our fuel map (accelerating or decelerating the engine) and not at steady state (i.e. at constant RPM under a consistent load) where the engines were designed to operate most efficiently. The result will be almost certainly some level of smokiness. Tuning the engine to get rid of this momentary smokiness will put the engine at risk of stalling or shutting down just when the operator needs an immediate response. To ensure the engines are tested in the manner that they are certified by the EPA we ask CARB to consider:

- *Any Opacity testing of marine equipment should be done at steady state, either prior to or post acceleration/deceleration.*
- *Testing should not be annual and serves no purpose other than to increase the operating cost and down time on the vessel. Like automobile emission testing it should be based on known risk factors such as age of the equipment and history. Propose once in the first 5 years to set a baseline, then every 5 years after that.*
- *Opacity testing should not be required for vessels qualifying under the low-use operating requirements.*

Concept XVII: Applicability and Exemptions
No comments currently.

Concept XVIII: Compliance Fee
Compliance with this new regulation will cost companies millions of dollars in upgrades. A fee on top will be an additional burden that will be shared by our shareholders, customers and the end consumer. We ask CARB to do everything possible to minimize the cost of administration, including reducing the frequency of reporting and opacity testing to minimum required to regulate the rule.

- *We would propose a fee based on the size of fleet and number of engines, with a cap. Suggest something about $100 per year per engine, up to $400 per vessel, with a cap of $2,000 per company fleet.*
- *We would be opposed to any fee that was based on hours or activity as neither impacts the work required by CARB to regulate nor should it be there be a penalty for being busy.*

Additional Comments

Overstatement of CHC Air Emissions

Foss has serious concerns that CARB has relied on inaccurate information to justify the proposed regulatory concepts. We see no justification for upwardly scaling the CHC vessel population from the February 2019 reported figure of 1,928 vessels to align with a U.S. Coast Guard dataset showing 3,698 vessels. The misuse and misinterpretation of the data set has led to CARB artificially inflating California's vessel population and consequently the overstatement of air emissions from towing vessels in California.

While our examination of the data was hampered by our company's response to the COVID-19 crisis and CARB's unwillingness to extend the comment period, we can still safely conclude that there is no rationale for CARB making the conclusion that our industry is under-reporting in any significant way. We find the following flaws in CARB's use of the dataset and the conclusion they draw from the data.

- CARB is confusing Hailing Port with area of operation and counting vessels that do not operate in California as non-reporting vessels.
- CARB is counting vessels that are either not properly documented to operate or are no longer in commercial service because of their age.
- CARB failed to use readily available sources of vessel information to validate their assumptions.

All California harbor craft must maintain and provide extensive records of operation pursuant to 17 California Code of Regulations (CCR) § 93118.5. But CARB is asserting that nearly half of the harbor craft in California do not comply with reporting requirements – i.e. 1,928 CHC operators report their operations to CARB while U.S. Coast Guard data reflects an additional 1,770 vessels with hailing ports from California. CARB's incorrect starting assumption is that "hailing port" is synonymous with operating area and that 1,770 vessels are not only not reporting but are operating with hours that are equivalent to the industry average per vessel. A vessel is not required to set their hailing port as the area they operate in and hailing port is more often reflective of the owner's offices or state of legal presence. In truth towing vessels reporting to CARB have hailing ports in many states. This lack of rigor suggests that CARB is inflating the number of purported CHC vessels to demonstrate a greater risk to the airshed and to help justify the proposed concepts.

CARB's use of the Coast Guard dataset is also flawed because many vessels included in the dataset are not legally allowed to operate under current regulations. AWO discovered that at least 37 of the tank barges in the list are built before 1983 – most likely with single hulls and legally prohibited from carrying oil in U.S. waters. These vessels likely do not operate in California or anywhere else. Other vessels in the dataset lack Certificates of Documentation (COD) and therefore cannot legally operate in U.S. waters. All told, from the data that AWO members had extraordinarily little time to review, at least 69 out of 217 towing vessels included in the Coast Guard's data have either expired CODs or work outside California.

CARB references 244 as the number of towing sector vessels, excluding barges and tank vessels, within California (13 ATBs, 73 ship assist/escort tugs, and 158 near-shore/ocean-going vessels). Based on the

above we know this number to be inaccurate. To find the facts our trade organization, AWO, obtained towing vessel population data from the Marine Exchange of Southern California and the San Francisco Marine Exchange, data clearinghouses for vessel activity throughout the state. This data included details on all tug escorts, assists, tank barge escort transit logs and an AIS search for active towing vessels in SF, SoCal, San Diego and Port Hueneme. This data showed that in the two-year time period a total of 142 vessels, classified as towing vessels by the USCG, were active in CARB regulated waters. This includes 13 ATB units that call these ports and more than 10 tug barge combinations that called less than 10 times in the two years, likely leaving them well below the 300 / 80-hour low operation limit. We concur with AWO's conclusion that CARB should also disclose its exact methodology for determining its vessel inventory and justify its decision to augment that inventory with misinterpreted Coast Guard data of questionable applicability.

Conclusion

Foss appreciates the opportunity to comment on CARB's Proposed Concepts for Commercial Harbor Craft in California. We hope CARB will take note of both our concerns captured in our comments and our recommendations. It is our desire to continue our long and effective collaborative relationship with the State of California and CARB. The proposed concepts present a significant change in policy direction for CARB from incentive-driven emission control programs to prescriptive and mandatory emission control programs. We have proven over the years that the previous approach not only achieved the desired results in terms of emission reductions, but it also fostered successful technology innovations, well-managed industry costs, and substantive air quality improvements. As a final comment we would ask for CARB to relook at modeling what has worked in the past and propose an incentive-driven emission control program.

Sincerely,

William Roberts
Chief Operating Officer

cc: Charles Costanzo, AWO's General Counsel and VP - Pacific Region

BY EMAIL

April 30, 2020

Tracy Haynes
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814
dquiros@arb.ca.gov

SUBJECT: Comments on Proposed Concept for Commercial Harbor Craft in California

Dear Ms. Haynes:

On March 25, 2020, the Golden Gate Bridge, Highway & Transportation District (District) wrote to request that CARB extend the comment period for the Proposed Concept for Commercial Harbor Craft in California due to the ongoing COVID-19 crisis, In response, CARB announced a 30 day extension, until April 30, 2020. On April 20, 2020, the District wrote CARB again, suggesting that CARB should suspend development of the Proposed Concept, not just extend the deadline for comments. The District has always been a leader in environmental stewardship, committed to maximizing emissions reductions as part of its mission of providing affordable public transit to the Bay Area communities it serves. Nevertheless, the District suggested that proceeding with the Proposed Concept at this time would ignore the impact the ongoing COVID-19 pandemic is having on local and regional government agencies like the District.

However, it appears that CARB is not inclined to delay, or suspend, development of the Proposed Concept. The District therefore offers comments on the Proposed Concept. While the District supports the general intent of the Proposed Concept's requirements, implementing the proposal on the proposed timeline will be largely infeasible for providers of public ferry service like the District without massive and unnecessary expenditures of public funds.

The District submits preliminary comments now, and looks forward to further collaboration with CARB and the ferry industry to the extent necessary to provide more extensive and technical comments to any proposed rulemaking that may follow this Proposed Concept.

1. Feasibility of Repowering the District's Fleet.

The District provides service using a fleet of seven ferry vessels: (1) three, twin engine, propeller drive monohull vessels; and (2) four high-speed, four engine, waterjet propelled catamarans. The District has a policy of using these vessels for many years past the federally recommended useful life of 25 years, adhering to the principle that continued use is always the most environmentally sound approach—more advantageous than replacing vessels and their equipment. The Proposed Concept presents different challenges for the District's two vessel types. But in all cases, the Proposed Concept would require the District to take measures that arguably are neither cost effective nor environmentally beneficial.

a. Monohull Vessels.

To comply with the Proposed Concept on its monohull vessels, the District would have to completely replace all of the vessels' equipment, including all propulsion systems. In turn, such modifications would impact the entire arrangement of the vessel. The conservative estimate of the cost of such a significant rebuild would be in excess of $6 Million per vessel, not counting lost revenue due to the vessel being out of service for 6-12 months. Such a large project would require the District to dispose of equipment that is not even close to the end of its useful life. At the end of the project, each vessel's capacity would be reduced by five commuters due to a reduction in vessel floor space.

It is worth mentioning that the District is in the middle of a rebuild project to, among other things, repower the *M.S. Sonoma,* one of the District's monohull vessels, with new Tier 3 engines. The District invested nearly $30 million in the project to ensure that it meets all current CARB requirements. The *M.S. Sonoma* is scheduled to return to service in late 2020. The Proposed Concept, however, would make this investment obsolete. If CARB adopts the Proposed Concept, then the District would need to take the *M.S. Sonoma* out of service for an unscheduled and additional repower and rebuild.

The District suggests that requiring such an investment would not produce benefits commensurate with the cost. In the alternative, CARB should study whether there are projects that provide more immediate and more significant environmental benefits and at lower cost. If CARB promulgates rules to implement the Proposed Concept, it should grant public transit providers like the District meaningful time extensions so they conduct the necessary rebuilds only when engines are at the end of their useful life, and should provide the necessary funds to support such projects. Moreover, CARB should allow public transit agencies to stagger repowering and replacement requirements over time. The *M.S. Sonoma* and *M.S. San Francisco*, and the *M.S. Marin* each carry 750 passengers. Simultaneously removing these three vessels from the District's fleet for repowering would represent a substantial loss in the District's public transit service. To avoid a substantial disruption in its service, the District needs flexibility to incrementally implement over several years the Proposed Concept's ambitious goals.

Attached to this letter are a number of studies the District has commissioned providing support for the conclusions expressed above, and providing more technical details as to the scope and estimated cost of such rebuilding projects.

b. High-Speed Catamarans.

As set forth above, it is technically possible, though inordinately expensive, for the District to rebuild its monohull vessels. By contrast, it is not possible to repower the high-speed catamarans to comply with the Proposed Concept for a number of reasons. The addition of the proposed engine and after-treatment solutions would add more than 15 tons to the stern of the vessel, having a drastic impact on vessel stability. To compensate for the additional weight, the passenger load would need to be reduced, in some cases, by more than 100 passengers. The District's vessels already operate at capacity. Reducing passenger capacity will result in more cars on the road. To achieve the exact same ridership level under the proposed concepts, the District would have to run more trips and it would result in a net increase in emissions.

In sum, to comply with the Proposed Concept, the District would need to fully replace its catamarans, the cost of which would be substantial, and certainly in excess of $120,000,000 The District suggests this is not the most cost efficient way to improve the efficiency of California's commercial harbor craft. Accordingly, the District seeks an exemption for the District's high speed catamarans from compliance with the Proposed Concept.

c. Other Technical Issues

Even were the District to be in a position of replacing engines or vessels, the Proposed Concept presents additional technical challenges. These challenges include:

- Manufacturer availability
- USCG approvals for safety equipment (emergency DPF bypass)
- BCDC review of vessel wake analysis for ecologically sensitive areas
- Revocation of EPA approvals for inclusion of DPF in exhaust stream
- Increased vessel loading characteristics
- Infrastructure modifications (urea loading capabilities)

The District believes that these technical challenges are impossible to meet using current technologies. Nor, given the comparatively small size of the marine industry, is the Proposed Concept likely to spur innovation and development of new technologies in the manner necessary to comply with new CARB rules. Moreover, to the extent technologies are available now, they are largely produced overseas. Most public ferry capital projects are supported by federal assistance, for which Buy America requirements attach. As a result, the District might not be able to use federal funding in order to comply with any CARB requirements. In sum, CARB should delay implementation of the Proposed Concept until existing technologies advance to the point where it is feasible for agencies like the District to achieve the hoped-for benefits. Additionally, CARB should approach the FTA for a blanket exemption from Buy America for funds used to bring a vessel into compliance with proposed concepts.

d. Funding Issues.

The Proposed Concept will impose enormous financial burdens on the District. As these comments indicate, those burdens are disproportionate to any environmental benefits that could be achieved if technology is even available to comply with the Proposed Concept. If CARB determines to proceed with the Proposed Concept, it must ensure that the State allocates funding to support necessary compliance efforts by public agencies like the District. In particular, the lack of manufacturers in the United States that sell certified Tier 4 engines restricts the District's ability to rely on federal grant assistance that includes Buy America requirements. Without funding assistance from the State, the District simply will not be able to comply with the Proposed Concept even if compliance were feasible.

If CARB proceeds with the Proposed Concept, it must reconsider the compliance timelines if only to acknowledge the realities of public funding for capital projects. At a minimum, CARB should adopt a longer timeline than in the Proposed Concept as it will take multiple years to secure the funding necessary for compliance. Reasons for a multi-year approach include: (1) securing the funding for vessel retrofits and replacements requires years of planning; (2) the federal government requires public agencies to maintain vessels and rolling stock until the end of their useful life; and (3) CARB's Innovative Clean Transit (ICT) regulation offers a template for a phased transition to cleaner technologies.

Vessel retrofit and replacement projects require significant lead-time to secure grant funds. For example, the District's funding plan for the nearly $30 million MS Sonoma rebuild project includes seven fund sources that District staff planned and programmed for over six years. Federal grants from the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) programmed to the MS Sonoma include both formula and discretionary funds from 2013 to 2019. The District programmed state and local funds to the project as well. If the District were required to retrofit or replace its entire fleet to comply with a new state mandate, the time to secure funding for those vessels would take twenty to thirty years, unless new state funding sources were made available.

Per FTA's grants management requirements (circular 5010.1.E), public agencies must certify that rolling stock, including ferry vessels, have reached the end of their useful life before replacing: "Rolling Stock Status Reports must accompany a request for a replacement vehicle that has met its minimum useful life. The report will be used to verify that a vehicle has met the minimum useful life and that there is no remaining federal interest." Useful life means the minimum acceptable period a capital asset purchased with FTA funds should be used in service. The District plans to replace its seven-vessel fleet as vessels reach the end of their useful life, which occurs over the course of 22 years (FY 2023 to FY 2045).

In 2018, CARB adopted the ICT regulation requiring all public agencies to transition to a 100 percent zero-emission bus (ZEB) fleet by 2040. The ICT requires large transit agencies, such as the District, to start purchasing ZEBs at a rate of 25% of total new bus purchases in 2023, and gradually increases the percentage of ZEBs required to 100% by 2029. CARB could use the ICT as a model for the commercial harbor craft regulation. The District recommends providing time for agencies to develop plans for a phased implementation that covers at least 20 years and that gives agencies the ability to replace vessels at the end of their useful life.

e. Structural and Regulatory Issues

The above four subsections describe the Proposed Concept's impact on the District's fleet and demonstrate the impracticability, or even impossibility, of compliance on the proposed timeline—or even at all. Following are additional comments that largely follow the organizational structure of the Proposed Concept document:

i. Section I of Proposed Concept considers which vessel categories should be subject to In-Use requirements. The District suggests that the lack of technological feasibility for a retrofit or repower should lead CARB to conclude that the District's ferries should not be subject to the Proposed Concept. In addition, if the economic impact on commercial fishing vessels has led CARB to exclude such vessels, then surely the massive economic impact the Proposed Concept will cause the District should lead CARB to the same conclusion with regard to ferryboats.

ii. Section IV of the Proposed Concept suggests that the Proposed Concept will accelerate deployment of zero-emission and advanced technologies through use of the approval process set forth in subsection (f) of the existing CHC regulation. The District does not believe that reliance on the existing approvals process "establishes a regulatory incentive framework to encourage adoption" of new technologies. To the best of the District's knowledge, it has been over a decade since CARB has approved a technology through the existing framework. The approvals process needs to be re-evaluated in order to achieve the benefits CARB anticipates.

iii. Section VI of the Proposed Concept seeks to replace the current process for compliance extensions when there is "no suitable engine replacement for harbor craft" with a process that caps any extension at a six-year period. But the difficulties of compliance as set forth above will be compounded if compliance extensions are not linked to demonstrated unavailability of technology. Applying an arbitrary six-year limit on extensions makes no sense if a compliant technology is not available in that time frame. The District suggests that if CARB requires compliance with the Proposed Concept, it should continue to allow for compliance extensions if suitable technology is not available—without a time limitation.

iv. Section VIII of the Proposed Concept seeks to implement a new procedure (the Alternate Compliance Pathway) that would allow for more streamlined review of alternates to complying with the in-use engine requirements. The District is supportive of the concept of providing for alternate means of complying with the Proposed Concept. But the existing ACE process is difficult and time-consuming, and does not have a successful track-record of approvals. The District suggests that CARB will need to consider a more streamlined approach even that the ACP to review alternates to compliance.

The District appreciates the opportunity to comment on CARB's Proposed Concept. As it supports CARB's commitment to further reduce pollution from commercial harbor craft, the District looks forward to continuing to work with CARB on the Proposed Concept. The District asks that CARB consider these comments prior to issuing any draft of its rulemaking of the

commercial harbor craft regulation. Please do not hesitate to contact me with any questions or requests for additional information.

Sincerely,

James P. Swindler
Deputy General Manager
Ferry Division

cc: Damon Brewer

JACOBSEN PILOT SERVICE, INC.
LOS ANGELES AND LONG BEACH HARBORS

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April 30, 2020

David C. Quiros
Manager, Freight Technology Section
Transportation and Toxics Division
1001 "I" Street
Sacramento, CA 95814

Re: Proposed Concepts for Commercial Harbor Crafts in California
– PILOT VESSELS -

Dear Mr. Quiros,

The following are our comments on CARB's Proposed Concepts for Commercial Harbor Craft in California.

As you might know, Jacobsen Pilot Service, Inc. has been providing piloting services for the Port of Long Beach since 1924. We also provide piloting services for the U.S. Navy at the Seal Beach Naval Weapons Center in Anaheim Bay. We pilot approximately 7,000 ships per year and operate 24 hours a day, 7 days a week. Along with piloting duties, our vessels have participated in emergency responses assisting U.S. Coast Guard and local Life Guards numerous times. After 911, we collaborated with Home Land Security transporting law enforcement to and from the ships. We have helped Vessel Assist in sinking's, fires and man overboard cases. Piloting companies not only safeguard commercial cargo ships but also help local government agencies keep the ports safe.

Our pilot boat fleet consists of three boats, two are diesel powered and one is powered by gasoline outboard engines. These boats are specially designed for piloting operations so that they can safely transport pilots to arriving vessels in any weather conditions.

We have been proactive in trying to reduce emissions. In 2008 we introduced our small 34-foot pilot boat ALTAIR with 4 stroke, 3 star CARB rated outboard gas engines. This helped reduce our yearly diesel consumption about 30%. Even though this boat is not used in rough seas, we are able to use it enough to benefit our operation. In 2018, we made a huge investment into designing a new pilot boat that is capable of delivering pilots safely and efficiently to ships in

any weather. The new boat ORION is the same length (64 feet) as our older (15-year-old) pilot boat VEGA. They both have maximum speeds of 26 knots. By using the latest technology in composite materials and carbon fiber, we were able to reduce the weight by 35%, which enabled us to use smaller Tier 3 engines (below the 600kW threshold). The results are impressive; the ORION burns 33% less fuel, has 35% less NOX, 55% less CO and 100% less PM. The overall cost of the naval architecture, engineering and construction was 4.3 million dollars. We built this vessel with an intended service life of 30 to 40 years.

Because the ORION has exceeded all expectations, our company is moving forward with building an identical boat to replace our older diesel pilot boat VEGA. This new boat will be delivered to us in July / August 2020.

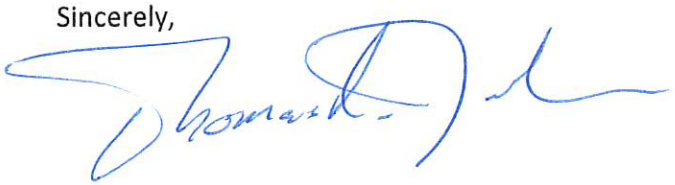
As you can see, these new boats are highly specialized and come at a huge cost for our company. Our concern is that our two new boats might not be able to meet the future CARB regulations. With these type of pilot boats, it is NOT as easy as just swapping out an old engine with a new engine. High-speed pilot boats are extremely sensitive to any additional weight. In addition, the engine rooms have limited space where we cannot just add more equipment at random.

During this COVID-19 crisis, we are finding it hard to give a more detailed response on your proposals. I find it interesting that during a worldwide pandemic and a massive recession happening, that CARB is pushing forward with these proposals. I believe CARB should pause on all new regulations until we recover from the COVID crisis and the economy stabilizes.

Furthermore, I feel Pilot boats in California should be exempt from these regulations since they are so specialized and there are so few throughout the state. I believe there might be only 10 pilot boats in California.

Please contact me anytime if you have questions.

Sincerely,



Captain Thomas A. Jacobsen
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California Department of Transportation, Division of Equipment

Date: 30 April 2020

Subject: Caltrans' comments and concerns on the proposed regulatory concepts for commercial harbor craft in California

Summary

The Division of Equipment (DOE) is neutral toward the proposed regulatory concept with recommended changes. DOE recommends that the proposed concepts be revised to allow diesel-electric technology for new short run (<3 nm) Vehicle Ferries (a proposed new vessel category) and push out the required compliance date to 2030. This revision is for reliability reasons and to allow more time to plan and fund compliance with the proposed regulations.

Background

Caltrans has two ferries, the Real McCoy II and the J-Mack. Both ferries operate in the Delta area and both use diesel engines. The Real McCoy II went into service in 2011. It has two Caterpillar C12 engines of 385 hp each. The J-Mack went into service in 1969. It has two John Deere engines of 85 hp each. Both ferries are required to operate 24 hours a day, 7 days a week and they both service the Ryer Island. The proposed regulatory concepts would require both Caltrans ferries, the Real McCoy II and the J-Mack, to be converted or replaced to be zero emission vessels by 2028.

Comments and Concerns

The two new electric ferries are estimated to cost from $10 million to $15 million (total). The existing power grid for both ferries are inadequate and will need to be upgraded, which could cost from tens of millions. This is due to the remoteness of the ferries' locations and the many unknowns related to the upgrade, which would most likely increase the final cost.

One of the issues of the proposed regulations is the reliability of the power supply. Unlike diesel fuel, Caltrans can only obtain its electrical supply from a single company, i.e., PG&E. In times of natural disaster, such as wild fire, the power supply may be disrupted, which would negatively impact the transportation system in California. If both ferries ceased to operate, residences of Ryer Island would have a difficult time leaving or returning to the island. More concerning is the situation when emergency vehicles need to use this route. In addition, to ensure uninterrupted services with a fully electric ferry Caltrans will need an

on-shore, diesel fueled, electrical generation backup system to ensure operational reliability of the Vehicle Ferry as well as the ability of emergency response to Ryer Island.

Moreover, the present grid system in both areas are not adequate and need to be upgraded for charging an electric ferry. Caltrans will need to finance the upgrade while PG&E will manage the power grid upgrade, which is expected to be in the millions of dollars.

Recommendations

Caltrans recommends defining a new vessel category, Vehicle Ferry, with its own mandate. The Vehicle Ferry category are for ferries that function as part of the state highway system, where passengers are not allowed to leave their vehicles. This new category, Vehicle Ferry, would have a mandate to be propelled with diesel-electric technology by January 1, 2030.

Vehicle Ferries are a critical component of the state highway system essential for the movement of services, which include emergency vehicles. The operational reliability of an electric Vehicle Ferry would be negatively affected by power disruption. A diesel-electric Vehicle Ferry could still operate with its self-generated power capability if the power supply is disrupted for whatever reason.

Recommend amendment to the proposed Commercial Harbor Craft regulation as shown below:
Add an additional category for vehicle carrying ferries on page 9, Table 2, Proposed Mandates for Zero-Emission and Advanced Technologies, add "Diesel-Electric" to Marine Technology Type for New Short (<3 nm) run Vehicle Ferries with a phase in date of January 1, 2030. The revised table is shown below:

Marine Technology Type	**Vessel Category Requirement**	**Mandate Phase in Date**
Enhanced Efficiency Diesel-Electric	New Tugs	January 1, 2025
Zero-Emission Capable Hybrid	New Excursion Vessels	January 1, 2026
Zero-Emission	New and In-Use Short (<3 nm) run ferries	January 1, 2028
Diesel-Electric	New Short (<3 nm) run vehicle ferries	January 1, 2030

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Charles P. Costanzo
General Counsel & Vice President – Pacific Region

April 30, 2020

Mr. David C. Quiros
Manager, Freight Technology Section
Transportation and Toxics Division
1001 "I" Street
Sacramento, CA 95814

Re: Proposed Concepts for Commercial Harbor Craft in California

Dear Mr. Quiros:

On behalf of The American Waterways Operators (AWO), thank you for the opportunity to respond to the California Air Resources Board (CARB) proposed concepts for further reducing pollution from Commercial Harbor Craft (CHC). AWO is the national trade association for the tugboat, towboat, and barge industry. AWO's more than 300 member companies own and operate towing vessels on the U.S. inland and intracoastal waterways; the Atlantic, Pacific and Gulf coasts; and the Great Lakes. The tugboat, towboat and barge industry provides family-wage jobs and ladders of career opportunity for more than 50,000 Americans, including 38,000 positions as mariners who safely, securely and efficiently move more than 760 million tons of cargo critical to the U.S. economy. The industry supports more than 300,000 jobs nationwide.

CARB's harbor craft regulations are particularly significant given the importance of waterborne commerce to the State of California. California ranks third among the states in waterborne commerce by tonnage and fourth in economic impact, with more than $12.2 billion annually in economic activity driven by the domestic maritime transportation industry. In California, the domestic maritime industry supports over 51,000 jobs and $3.6 billion annually in worker income. Seven AWO member companies are headquartered in California, and many more operate tugboats, tank barges, and deck barges on California waters. The industry enables the movement of tens of millions of tons of freight on California waterways, ensuring the state's essential role in global trade and significantly decreasing congestion on the state's highways and railroads while producing fewer air pollutants.

AWO members have a long history of collaboration with CARB on air quality initiatives and we are deeply committed to ongoing efforts to reduce air emissions and the carbon footprint of our operations. AWO is very concerned that CARB has not provided enough time for the regulated community to collaborate, engage on, and understand the complex and long-term implications and effects of the proposed concepts on the towing industry serving California. CARB has requested industry input throughout this process and has repeatedly highlighted the importance of strong industry-regulator dialogue for rule development. Now, with a global pandemic affecting livelihoods and schedules and in the face of repeated urgent requests from industry to delay the comment deadline on the proposed concepts, CARB has moved inexorably forward with a minimal extension on a critical review period for a major rulemaking proposal. In short, the 30-day extension is inadequate given the present circumstances surrounding industry's limited ability to respond and at odds with CARB's professed interest in regulator-industry dialogue. AWO values regulatory processes that allow for robust industry-agency dialogue, the safe and environmentally responsible operation of towing vessels, consideration of compliance costs and benefits, and protection of U.S. port competitiveness. CARB's process around these proposed concepts has neglected these important precepts.

CARB's Incentive-based Programs Have Proven Effective

The proposed concepts represent a significant change in policy direction from incentive-driven emission control programs to prescriptive and mandatory emission control programs. Harbor craft operators in California have long participated in mutually successful, incentive-based air quality programs through CARB and various Air Quality Management Districts, taken advantage of grant and finance plans to upgrade and improve engines, and achieved meaningful results for California air quality. Earlier iterations of progressively higher voluntary standards have led to successful technology innovations, well-managed industry costs, and substantive air quality improvements. The proposed concepts are a disappointing and dramatic departure from what has been a very successful regulator-industry partnership.

Several AWO member companies have worked extensively with CARB on incentive-based emission reduction strategies and have taken advantage of state funding programs to undertake substantial measures to reduce engine emissions. For example:

1. An operator of tugs and barges in both the Southern California and Bay Area markets took advantage of the Carl Moyer program, EPA DERA grants and Tiger grants partnering with Port Authorities. These funds, in conjunction with even more company capital was used to rebuild or repower over 20 engines upgrading from Tier 0 to Tier 1 or Tier 2. The funds were also used to convert a conventionally powered diesel tug to hybrid propulsion and construct a new hybrid propulsion tug. After spending tens of millions of dollars, the company has already had to replace many of these vessels due the current CHC rules, and will have to replace or modify all the vessels within 8 years,

including the brand new Tier 4 tug just delivered from the shipyard this year, if these concepts are adopted;

2. Another Bay Area towing vessel operator has more than a 20-year history of successful collaboration with the State of California, using Carl Moyer grants to replace over 40 engines. However, the proposed concepts would require this operator to replace or modify many of these engines for which the grant reporting period is still running; and,

3. Another national towing vessel operator collaborated with CARB, SCAQMD, and the BAAQMD to obtain Carl Moyer grants to repower and re-tier several vessels with kits to Tier 2 in 2011/2012 and is now in the process of upgrading many of these same vessels to Tier 3.

These examples demonstrate that the towing industry has been aggressively reducing air emissions both through collaboration with California regulators and on its own. This positive record of collaboration was achieved by developing a clear and shared understanding of our common goals. The proposed concepts, if enacted, threaten the collaboration built over many years and risk creating an adversarial and counterproductive situation driven by engineering feasibility concerns, prohibitive costs, and likely legal challenges. This is particularly disappointing since the concepts themselves and the implementation timeline are not justified by accurate data.

CARB Overstates CHC Air Emissions

AWO believes that CARB has relied on inaccurate information to justify the proposed regulatory concepts. Specifically, AWO sees no justification for upwardly scaling the CHC vessel population from the February 2019 reported figure of 1,928 vessels to align with U.S. Coast Guard data showing 3,698 vessels. This artificial inflation of California's vessel population is due to a flawed interpretation of Coast Guard data leading to an overstatement of air emissions from towing vessels in California.

The entire premise of the proposed concepts is that CHC are "the third-highest contributor to near-source cancer risk [at the Ports of Los Angeles and Long Beach] in 2016 and will contribute an even larger proportion in 2023 once emissions from ocean-going vessels and locomotives are further reduced." The proposed concepts and the attendant compliance schedules are derived from this flawed starting assumption. AWO strongly requests that: 1) CARB revise its vessel population count; 2) Revise the concepts and schedules to accurately reflect the lower cancer risk; and, 3) Revise the emission profile from CHC operation.

While our examination of the data was hampered by time and resource constraints due to our industry's response to the COVID-19 pandemic, CARB's unwillingness to extend the comment period, and a lack of transparency on how CARB used the Coast Guard dataset, we can safely conclude that there is no rationale for CARB's conclusion that our industry is

underreporting in any significant way. We find the following flaws in CARB's use of the dataset and the conclusions drawn from the data:

1. CARB is confusing "Hailing Port" with area of operation;

2. CARB is counting vessels that do not operate in California as "non-reporting" vessels;

3. CARB is counting vessels that are either not properly documented to operate or are no longer in commercial service because of their age or other regulatory requirements; and,

4. CARB failed to use readily available sources of vessel information to validate their assumptions.

All CHC vessels must maintain and provide extensive operational records pursuant to 17 California Code of Regulations (CCR) § 93118.5. But CARB is asserting that nearly half of the harbor craft in California do not comply with reporting requirements – i.e. 1,928 CHC operators report their operations to CARB while Coast Guard data reflects an additional 1,770 vessels with hailing ports from California. CARB's incorrect starting assumption is that "hailing port" is synonymous with operating area and that 1,770 vessels are not only not reporting but are operating with hours that are equivalent to the industry average per vessel. A vessel is not required to set their hailing port as the area they operate and is more often reflective of the owner's offices or corporate domicile.

As an example, one AWO member company reports seeing 60 vessels associated with its operation in the Coast Guard dataset, of which only 18 operate in California or regularly call on California ports. The remaining 42 vessels are either:

1. Operating in Alaska and have not been to California in possibly decades;

2. Operating in the Gulf of Mexico and, while they have the potential to call California, do not currently call California;

3. Operating only in Washington State;

4. Laid up (in Washington State) or sold; or,

5. Double counted in the Coast Guard data (two vessels are listed twice).

Towing vessels reporting to CARB have hailing ports in many states. This lack of rigor suggests that CARB is inflating the number of purported CHC vessels to demonstrate a greater risk to the airshed and to help justify the proposed concepts.

CARB's use of the Coast Guard dataset is also flawed because many vessels included in the dataset are not legally allowed to operate under current regulations. At least 37 of the tank barges in the list were built before 1983 – most likely with single hulls and legally prohibited from carrying oil in U.S. waters. These vessels likely do not operate in California or anywhere else. Other vessels in the dataset lack Certificates of Documentation (COD) and therefore cannot legally operate in U.S. waters. All told, from the data that AWO members had extraordinarily little time to review, at least 69 out of 217 towing vessels included in the Coast Guard's data have either expired CODs or work outside California. CARB concedes that 41 of the towing vessels included in its data have expired CODs but then appears to keep all 41 towing vessels in the dataset.

CARB has acknowledged its reliance on the Coast Guard data, but it is clear that CARB has not addressed any of these anomalies. Not including barges and tank vessels, CARB refers to 244 total towing sector vessels within California (13 ATBs, 73 ship assist/escort tugs, and 158 near-shore/ocean-going vessels). AWO sought to resolve this inconsistency by obtaining towing vessel population data from the Marine Exchange of Southern California and the San Francisco Marine Exchange, data clearinghouses for vessel activity throughout the state. This data included details on all tug escorts, assists, tank barge escort transit logs, and an AIS search for active towing vessels in San Francisco Bay, Los Angeles/Long Beach, San Diego, and Port Hueneme. This data showed that in the most recent two-year period a total of 142 vessels, classified as towing vessels by the Coast Guard, were active in CARB regulated waters. This includes 13 ATB units that call on these ports and more than 10 tug-barge units that called fewer than 10 times in the two years, likely leaving them well below the 300/80-hour low-operation reporting threshold. In addition to reexamining its vessel inventory, CARB should also disclose its exact methodology for determining its vessel inventory and explain its decision to augment that inventory with misinterpreted Coast Guard data.

CARB's Arbitrary and Capricious Application of Rules

CARB's mistaken reliance on inapplicable Coast Guard data to arrive at the 3,698 regulated vessel count is further compounded by its decision to refrain from applying portions of the proposed concepts to commercial fishing vessels and other vessels. Approximately 1570 vessels (40%) included in CARB's data set are listed as commercial fishing vessels, which are excluded from current and future in-use regulations. Therefore, CARB reasons that the remaining community of regulated CHC – 60% of the vessels included in the data set – must bear 100% of the regulatory burden of proposed emissions reductions. This selective application of the rules is unfair. Further, it necessitates a careful review of the policy decision to exempt 40% of the regulated vessel population from CARB's proposed concepts.

CARB's rationale for excluding fishing vessels from the so-called "in-use" concepts is based on "the small profit margins in the industry, demonstrated lack of feasibility for Tier 4 repowers and retrofits, competition with out of State and global markets, and tendency to conduct the majority of their operations far from the coast." These are identical prevailing

conditions for a significant portion of regulated vessels in the towing industry. Indeed, many, if not all, of the conditions that led CARB to exempt commercial fishing vessels and other ocean-going vessels from these proposed concepts are also true of a significant number of towing vessels.

ATBs Are Ocean-Going Vessels

Purpose built ocean-going tugs and their corresponding tank barges, which are rigidly connected as one unit (referred to as "ATBs"), commonly operate in interstate commerce in competition with U.S.- and foreign-flagged self-propelled tank vessels. While ocean-going tankers are entirely excluded from the proposed concepts, ATBs calling on the same petroleum terminals, carrying the same cargo, and conducting the same operations as self-propelled tank vessels would be regulated differently under CARB's proposed concepts. Due to the markets of operation, coupled with the fact that ATBs routinely spend the majority of their time outside of California in interstate and foreign commerce, CARB should consider ATBs as ocean-going vessels and, therefore, exclude ATBs from the proposed harbor craft rule.

CARB's Proposed Concepts May Violate the Federal Clean Air Act

Several of CARB's proposed concepts could, if enacted without express authorization from the U.S. Environmental Protection Agency (EPA), violate the federal Clean Air Act as they are "standards and other requirements relating to the control of emissions."[1] Although the federal Clean Air Act expressly preempts state regulation of emissions from many types of engines, it allows California to seek authorization from the EPA to adopt standards for certain nonroad engines and vehicles including harbor craft. Federal law limits the standards available to California without express authorization from EPA to "in-use standards." CARB characterizes certain elements of its proposed CHC concepts as "in-use" standards – which federal courts have determined apply to "use, operation, or movement" of regulated non-road vehicles. Examples of in-use standards include limitations on idling times, carpool lanes, and other use restrictions that control emissions. Despite this characterization, CARB's proposed concepts include clear emission performance standards that necessitate authorization from EPA.

CARB's proposed Concept 2 – which it characterizes as "More Stringent In-Use Requirements" – describes two clear emission performance standards, followed by an in-use standard as an alternate means of compliance: 1) the modification of a federally-compliant engine with specific filter equipment to meet an elevated California emission performance standard; 2) the use of "pre-approved" Alternate Complying Technology to meet an elevated California emission performance standard[2]; and 3) the imposition of low-use operational requirements. Both Options 1 and 2 outlined in Concept 2 are emission performance standards that specifically require specialized equipment above and beyond existing federal requirements to be installed aboard the vessel. CARB in its Proposed Concepts expressly acknowledges the establishment of an emission performance standard: "For vessels that choose to meet the

[1] Clean Air Act §209(e)(2)
[2] CARB provides no information on the pre-approval process for Alternate Complying Technologies.

performance standard with diesel engine repowers and retrofits, CARB is proposing the use of the cleanest available marine certified engines combined with verified retrofit DPFs." The proposed concept is not an "in-use" rule because it would regulate emissions and engines, not the fuel used. "Supplying a presumed mode of compliance does not alter the nature of the general requirement limiting emissions. Indeed, the Marine Vessels Rules do not impose an in-use fuel requirement because no particular fuel is required to be used at all."[3] Notwithstanding the questionable feasibility of retrofitting marine engines with DPFs, proposed Concept 2 cannot be construed as an "in-use requirement" and would necessitate authorization from EPA.

CARB's proposed Concept 3 – requiring new vessels to be designed with specific engine equipment meeting standards that are separate from those established by the federal EPA – is preempted by Clean Air Act §209(e)(1), which prohibits states from establishing requirements relating to the control of emissions from new non-road engines without authorization from EPA. The 2004 case of *EMA v. South Coast Air Quality Mgmt. District* is instructive. The U.S. Supreme Court took a broad view of what constitutes a "standard" under §209 of the Clean Air Act to include not just standards that manufacturers must meet, but also standards that consumers/purchasers are required to meet: "This interpretation is consistent with the use of 'standard' throughout Title II of the CAA (which governs emissions from moving sources) to denote requirements such as numerical emission levels with which vehicles or engines must comply, e.g., 42 U.S.C. § 7521(a)(3)(B)(ii), *or emission-control technology with which they must be equipped*, e.g., § 7521(a)(6)."[4]

Finally, CARB's proposed Concept 16 – requiring annual opacity testing – is a clear emission performance standard as it establishes a test to determine – however subjectively – a certain amount of a given pollutant. Even if this proposed concept were made less subjective through detailed standards for testing or made more applicable to CHC by updating existing CARB opacity testing rules, establishment of this concept in regulation would nevertheless require EPA authorization. As articulated by the court in *EMA*, "The Marine Vessel Rules plainly fit within the SCAQMD definition of 'standards' as a requirement that a 'vehicle or engine must not emit more than a certain amount of a given pollutant." This is the very essence of what opacity testing would measure. And, citing *Goldstene*, "In the end, Clean Air Act §209(e)(2) preempts the Marine Vessel Rules and requires California to obtain EPA authorization prior to enforcement because the Rules are 'emissions standard' that require that engines 'not emit more than a certain amount of a given pollutant."

Specific Suggestions from AWO

Despite AWO's fundamental concerns with the basis, timing, application, and legality of the proposed concepts, we nonetheless want to share specific concerns with the individual concepts themselves and suggest ways they can be better applied to regulated community of towing vessels.

[3] *PMSA v. Goldstene,* 517 F.3d 1108 (Ninth Cir. 2008).
[4] *EMA v. South Coast Air Quality Mgmt. District,* 124 S. Ct. 1756 (2004) (emphasis added).

Compliance Timelines

CARB's proposed compliance deadlines for engine repowering and engine modifications are too short. Even relatively simple engine modifications must be evaluated based on the vessel's stability, maneuverability, available space, and watertight integrity. As engine manufacturers obtain Tier certification for more engines, vessel manufacturers need more time to properly evaluate the engine options for certain operations and make changes to vessel designs to account for the new engine parameters and specifications.

AWO suggests the following improvements to the timeline:

1. Before enforcing new Tier 4 requirements, the agency should allow sufficient time (e.g. 1 year) for the industry to test the Tier 4 engines for towing applications.

2. Extend the proposed implementation dates to account for industry investments made to comply with existing regulations. Any currently compliant engine should be able to operate without modification for at least 20 years from its initial service date.

3. If an operator can prove that a required upgrade is not feasible and that such an upgrade would present a financial hardship to meet the compliance date, CARB should grant a reasonable extension.

4. Operators of multi-vessel fleets should be allowed to defer compliance in one-year increments indefinitely to avoid two vessel re-power projects in the same calendar year.

5. Vessel operators should be allowed to defer compliance until a vessel's next regulatory dry-docking in order to mitigate against shipyard congestion and cost.

6. New-build designs are often completed years in advance of vessel construction. The proposed concept could compel vessel operators to make costly and disruptive changes to engine plans during the design period. To avoid this situation, AWO recommends that CARB extend the new-build phase-in date to a minimum of five years after the effective date of the rule.

AWO appreciates CARB's consideration to allow compliance deadline extensions based on feasibility. However, because of the way CARB groups engine model years into single compliance years, compliance extensions are not likely to provide significant relief for operators with fleets that operate more than one "sister" vessel with engines from the same model year.

Technological Feasibility

The proposed concepts will not be feasible for certain towing vessels and will require operators to remove those vessels from California service. In some cases, relatively new and fully

compliant vessels would be barred from operation in California simply because the operators failed to anticipate the enactment of California's special Tier 4 requirements. This is particularly true of the proposed concept requiring Tier 4 engines with a Diesel Particulate Filter (DPF). Currently, there is little to no marine application of DPF, considerable size and engine space restrictions exist, and back pressure created by DPF on an engine exhaust system is intolerable for the safe operation of existing and known future engines. Many vessels currently have no manufacturer approved DPF available for engines, so industry cannot determine feasibility of DPF on marine vessels. CARB is proposing to require technology that is untested, unproven, and simply unavailable.

AWO suggests the following measures to address feasibility issues with DPF:

1. Delay the implementation date for any DPF rules by a minimum of five years after a compliant Tier 4 with DPF engine can be approved by the appropriate regulatory authority and is reasonably available; and

2. Vessels unable to install a Tier 4 engine and a DPF due to infeasibility will be considered in compliance if the vessel operates a Tier 3 engine with a DPF or a Tier 4 without a DPF.

CMA Tier 4 Feasibility Report Shortcomings

AWO retained Jensen Maritime Consultants ("Jensen") to provide an independent engineering review of Cal Maritime's "Evaluation of the Feasibility and Costs of Installing Tier 4 Engines and Retrofit Exhaust Aftertreatment on In-Use Commercial Harbor Craft." CARB relied on the Cal Maritime study to determine the feasibility of Tier 4 retrofits and to help justify the implementation and compliance schedule for the proposed concepts. The Cal Maritime study looked at four retrofit scenarios for an individual harbor tug to arrive at its conclusions while the Jensen review drew conclusions from a similar project performed for Crowley Maritime.

Jensen's review finds that the technical challenges of repowering a vessel with EPA Tier 4 engines could be significant and cost prohibitive for some ship assist and escort tugs. This is particularly true in the case where the engine room does not allow for overhead selective catalytic reduction (SCR) placement. Jensen's review identifies technical considerations for vessel repowers that were not included in the Cal Maritime study and suggests that the Cal Maritime study may have underestimated retrofit costs by nearly 37%. The Jensen review is attached hereto as Appendix 1.

It should also be noted that both the vessel in the Cal Maritime study and the vessel in the Jensen project are relatively large towing vessels with ample machinery space. Many other vessels performing similar functions do not afford the same space. Therefore, the Cal Maritime study, on which CARB relied for feasibility, is not representative of the feasibility for most towing vessels. For many comparable vessels in this category, not only is the cost of Tier 4 repower and DPF retrofit severely underestimated in the Cal Maritime study, but

general feasibility is questionable. AWO suggests that the proposed concept will necessitate more vessel replacements than CARB realizes.

Shore Power for At-Berth Vessels

CARB's proposal to require shore power for vessels at berth depends on the development of shoreside infrastructure beyond the control of vessel operators. Terminal and lay-berth facilities should equitably bear the burden of any proposals requiring specific shoreside infrastructure development. Many towing vessel companies use shore power at their home dock berths to limit generator use and to decrease idling time for main engines, but vessel operators without long-term leases and control over infrastructure may find it impossible to comply with this proposal.

The proposal also impacts customer berths, where the terminals may have to provide increased infrastructure. AWO is concerned that facilities may decide not to offer short-term lay-berths if they cannot comply with CARB's proposed infrastructure requirements. Limited berth space could force towing vessels to idle in harbor between jobs or burn more fuel to return to an electrified home dock. In this situation, the regulation would be responsible for increasing, not decreasing, air pollution.

Towing vessel operators struggle to find suitable mooring locations in California ports. While harbor craft moorage is essential to the port economy, most port operators would prefer to devote infrastructure resources to activities that generate higher revenue. The proposed concepts might reduce lay-berth availability if facility operators fail to provide to shore power to enable compliance with CARB's proposed shore power concept.

AWO also recommends the following actions to improve the shore power proposals:

1. The duration of the idle period should be extended from 15 minutes to 30 minutes.

2. CARB should explore incentive-based programs to encourage facilities to provide shore power infrastructure to regulated harbor craft.

Opacity Testing Requirements are Inappropriately Designed

Notwithstanding the above-referenced legal concerns, the opacity testing proposal is too subjective. Certain types of towing vessels have a highly variable duty cycle and their engines must be tuned to provide the power, maneuverability, and braking necessary to safely operate. CARB's proposed concept suggests testing during the transitional phase of a vessel's fuel map (i.e. accelerating or decelerating the engine), and not at steady state (i.e. at constant RPM under a consistent load), where the engines operate most efficiently. Tuning the engine to minimize smoke during the transitional phase could compromise engine integrity when the operator needs to ensure safe operation and maximum responsiveness.

To ensure the engines are tested in the manner that they are certified by the EPA, we offer the following recommendations:

1. Opacity testing of marine equipment should be done at steady state, either prior to or post acceleration/deceleration.

2. Testing should not be annual. Testing should be based on known risk factors such as equipment age and operational history. Opacity testing should occur once in the first years of vessel operation to set a baseline and then at reasonable periods thereafter (e.g. every 5 years).

3. Opacity testing should not be required for vessels qualifying under low-use operating requirements.

4. Consider allowing operators to perform annual engine opacity tests on their own equipment and adopt an oversight method to certify and spot-check results.

5. Towing vessel engines have different operational characteristics than other vessels addressed under similar CARB regulations. Also, different types of towing vessels operate differently from each other. CARB should consider the range of CHC engine types and duty cycles and modify the proposed concepts to meet specific operating conditions.

6. Opacity tests will be more difficult to perform on constant RPM engines such as generators and will provide fewer significant examples of standard operating condition for these engines. Opacity testing, as CARB proposes, may not be appropriate for constant RPM engines.

Compliance Costs are Unreasonable

The proposed concepts would create unreasonably high compliance costs and create waste by forcing operators to replace or retire relatively new, clean, and operable engines and vessels. In the towing vessel community's experience under the previous rule, transitioning a towing vessel from a Tier 0 or Tier 1 to a Tier 2 engine often required significant rebuilds or repowers. Because vessels often outlive the useful life of engines, compliance deadlines under the previous regulation could be effectively aligned with scheduled vessel rebuilds or repowers that would have taken place regardless of regulatory deadlines.

Under the proposed rule, too many towing vessels would not be allowed to outlive the useful life of their engines due to physical space constraints and installation restrictions for required equipment. In those cases, compliance with the proposed rule would require that vessels be retired or replaced when they would have otherwise had significantly greater operational lifespans. For some operators that perform work outside of California, vessel relocation is an option. For many California-only operators, however, the rule presents a significantly higher

financial burden by forcing them to replace vessels and engines long before it would make economic sense.

Under the proposed rule, CARB would render useless many towing vessels into which operators have already made significant air quality investments. Many of these recent investments were made with the understanding that CARB's current and forthcoming commercial harbor craft rules would allow vessels a far greater portion of their useful lives than the proposed rule currently allows. Tug and barge owners have, in good faith, designed and built vessels in compliance with international, federal, state, and local laws and regulations. CARB should not enact unnecessarily aggressive regulations that prevent vessel owners from recouping the cost of their significant investments.

Additionally, AWO is concerned that the proposed concepts frame the emissions by unit per engine or per vessel. The proposals fail to take into consideration emissions by unit per work performed. Given the added size and weight of Tier 4 compliant equipment, all other things being equal, vessels are likely to have reduced operating capacity. This lower capacity would create a need for additional vessels, operating in the same location and time period, in order to perform the same amount of work. Once again, the regulation could actually increase fuel use and air pollution.

The proposed rule would also cause an unprecedented short-term increase in demand for shipyard availability and equipment, much of which is not available in the market. The towing vessel community is concerned that California shipyards could not accommodate the waves of retrofits necessary to comply with the proposed concepts.

AWO disagrees with CARB's intent to assess the financial hardship of complying with a regulation based on a company's financial health. The effect of such a methodology would be to prop up companies that are struggling financially by allowing them to avoid regulation and gain an economic advantage over companies that are financially sound. Regulators should not be in the position of altering the competitive posture of companies, but rather strive to create an equitable regulatory regime. Financial hardship should be measured by the impact on an asset's ability to compete. For many operators, losing a single vessel has significant economic impact, either through lost revenue or through the cost of sourcing a temporary replacement tug. Also CARB should give special consideration when a vessel's design or configuration renders the required modification so expensive as to make the vessel unprofitable. CARB's projected compliance costs do not reflect the entire financial impact of the proposed concepts and AWO recommends that CARB more fully account for these costs.

To address cost concerns for towing vessels, AWO recommends the following:

1. Modification estimates, as verified by a to-be-determined third party or agency, which exceed a given cost/value ratio should be granted a compliance extension.

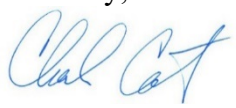
2. A vessel's initial in-service date should be the baseline to determine implementation dates for that engine, instead of engine model year, since engine year does not reflect

how long the engine has been operated or how long the owner has had to recoup the cost of investment.

CARB should also minimize the cost of the proposed rule's administration, including reducing the frequency of reporting and opacity testing. Any administration fees should be capped and based on fleet size and number of engines. AWO recommends $100 per year per engine, up to $400 per vessel, with a cap of $2,000 per company fleet.

AWO members are focused at this extraordinary time of global pandemic on keeping crews safe, protecting the environment, and facilitating essential California trade. We appreciate this opportunity to comment but strongly believe that more time to review this complex and costly proposal is needed. AWO urges CARB to further extend the comment period and stands ready to collaborate and dialogue with the agency. We would be pleased to answer any questions or provide further information.

Sincerely,



Charles. P. Costanzo
General Counsel & Vice President – Pacific Region

Appendix A
Jensen Naval Architects and Marine Engineers: Engineering Review Summary - Cal Maritime Tier 4 Feasibility Study

REVISIONS			
REV	DESCRIPTION	DATE	APPVD

PROJECT

Engineering Review - Cal Maritime Tier 4 Feasibility Study

CLIENT

The American Waterways Operators

TITLE

Engineering Review Summary

JENSEN
Naval Architects & Marine Engineers

1102 SW Massachusetts Street
Seattle, Washington 98134-1030 Ph 206.284.1274
www.jensenmaritime.com Fax 206.284.2556

EGR	CL	DATE	4-24-2020
CKD	CP/JP	DATE	4-24-2020
APP	CL	DATE	4-29-2020

DOC NO.	REV
203062-230-0	0

Table of Contents

Introduction

The American Waterways Operators (AWO) retained Jensen Maritime Consultants (Jensen) to provide an independent engineering review of Cal Maritime's "Evaluation of the Feasibility and Costs of Installing Tier 4 Engines and Retrofit Exhaust Aftertreatment on In-Use Commercial Harbor Craft", dated 30 September 2019, which was prepared for the California Air Resources Board (CARB) (Reference 1).

Reference 1 evaluated the feasibility of repowering thirteen different representative vessels with Environmental Protection Agency (EPA) Tier 4 marine engines. This engineering review focused on evaluating the technical feasibility and capital cost information for ship assist tugs only; particularly for the EPA Tier 4 main engine repower option. Specifically, the review focused on five areas impacted by repowering:

- Arrangement
- Mechanical
- Structure
- Electrical
- Weight/Stability
- Capital Cost

Operating costs and vessel replacement costs were not evaluated in this review.

In order to facilitate the review, Jensen's recent experience repowering ship assist and escort tugs with EPA Tier 4 engines was used.

Discussion

Cal Maritime Feasibility Study

Reference 1 evaluated the feasibility of four retrofit scenarios for a ship assist and escort tug. The study determined that retrofitting diesel particulate filters (DPF) and selective catalytic reduction (SCR) equipment to existing main engines was not feasible given the scope and constraints of the study. The study determined that repowering with EPA Tier 4 main engines was feasible with "minimal vessel modification".

In the repower option, the study used a representative ship assist and escort tug with the following attributes:

- LOA: 100'-0"
- Beam: 40'-0"
- Max Draft: 19'-6"
- Quantity of Main Engines: 2
- Total Installed Main Engine Power: 6,850 hp

The study identified the following impacts to accommodate the new engines in the representative vessel:

Arrangement

- The SCRs were located forward of the main engines in the engine room overhead.
- The study notes that there wasn't space available for a 2,000 gallon diesel exhaust fluid (DEF) tank in the engine room. The study does not identify a location for the DEF tank, but suggests there is a possible location in the Z-Drive room.

Structure

- No specific structural modifications were identified.

Mechanical

- The study assumes that new silencers will be needed for the main engines along with an overhaul of the exhaust system.
- Rerouting other mechanical systems in the engine room in way of the SCRs may be required.
- The study briefly mentions compressed air modifications.
- Engine room ventilation duct work rerouting to accommodate SCRs.

Electrical

- No significant impact to the electrical system was identified, but the study notes that minor integration of dosing equipment is required.

Weight/Stability

- The estimated weight additions are as follows:
    - New engines: 2 long tons (LT)
    - Additional equipment and structure: 13 LT
- The study notes that additional weight and stability calculations are required upon finalizing the DEF tank size and location.
- An increased vertical center of gravity (VCG) is possible due to the location of the SCRs and a possible weight reduction in the new main engines.

Capital Cost

- The average total capital cost for the repower is estimated to be $2,812,000.

Crowley Ship Assist and Escort Tug Case Study

In order to evaluate the information provided on the technical feasibility and capital cost for repowering a ship assist tug with EPA Tier 4 engines in Reference 1, it is useful to compare it against a project that is underway with the Crowley Maritime Corporation (Crowley). Crowley is currently underway with a project to repower an existing Tier 0 ship assist and escort tug with EPA Tier 4 engines. At this point the engineering is nearly complete and the project is scheduled for implementation in 2020. This project provides an excellent basis for comparison because the particulars of the tug are nearly identical to the representative tug used in Reference 1. The particulars of the Crowley tug are shown below:

- LOA: 100'-0"
- Beam: 40'-0"
- Depth: 22'-1"
- Quantity of Main Engines: 2
- Total Installed Main Engine Power: 6,800 hp

In reviewing the engineering package for the Crowley repower project, the following areas have been identified as requiring modification:

<u>Arrangement</u>

- The tug is fortunate to have the available space in the overhead of the engine room so the SCRs were located above the main engines as shown in Figure 1.

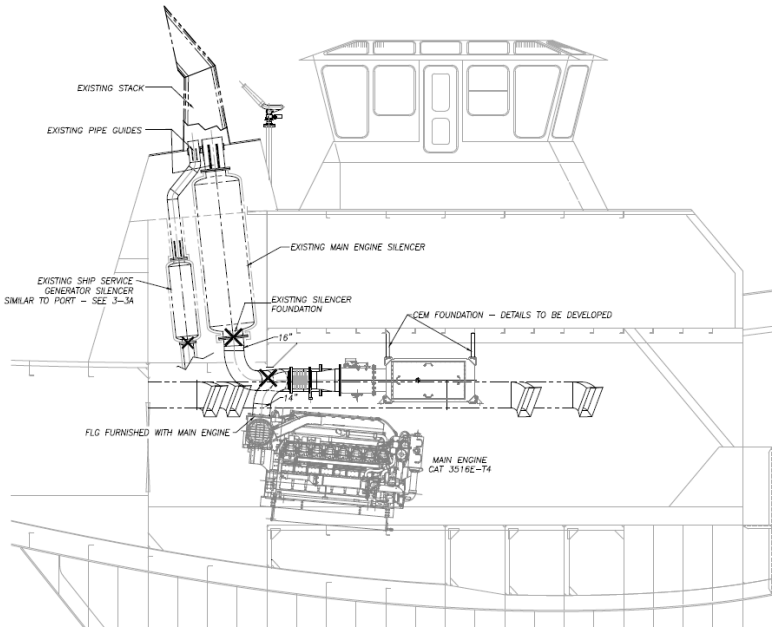


Figure 1: Crowley Tug SCR Arrangement

Structure

- The new Tier 4 engines have the same footprint and mounting configuration as the existing engines so modifications are not required to the engine foundation.
- The following equipment foundations are required:
  - Two (2) new DEF dosing units.
  - Two (2) new main engine exhaust aftertreatment CAT clean emissions modules (CEMs). Note that these are the SCRs.
  - One (1) new harbor generator silencer.
- Subdividing two existing ballast tanks to partially convert to DEF storage.
- Compartment and tank testing for DEF tanks

Mechanical

- Minor fuel oil modifications are required for the new engines and generators.
- New keel coolers for main engines and generators to replace existing raw water cooling system.
- Propulsion shaft bearing replacement and alignment.
- New exhaust piping between the main engines and silencers. The existing silencers will be retained as a cost saving measure. Possibility of installing new, slightly smaller silencers exist, but at additional cost for new equipment.
- Modifications to exhaust system piping for the generators.
- New DEF system including stainless steel transfer piping and DEF tank fill and vent piping. DEF tank insulation and heating.
- New compressed air piping, valves, and fitting for the dosing units.

Electrical

- Two new 129 kW generators to upgrade from Tier 0 engines to Tier 3 engines.
- Additional 2 kW electrical load for the dosing cabinets.
- New alarm and monitoring system for the main engines.
- Miscellaneous electrical requirements for power, control, and monitoring of dosing equipment and tank level indication.

Weight/Stability

- The new engines are the same weight as the existing engines.
- The estimated lightship increase from the repower is 4 LT.
- The vertical VCG is estimated to increase by .07 ft.

Capital Cost

- The total capital cost project budget range is 3.7M to 4.5M.

Conclusion

When comparing the results of Reference 1 with the Crowley project, as well as other EPA Tier 4 ship assist and escort tug designs in the Jensen Maritime portfolio, this engineering review finds that it is technically feasible for the representative tug to be repowered with EPA Tier 4 engines and associated aftertreatment equipment. There are multiple options for commercially available engines in the 3,500 hp range from which operators can evaluate and choose from. It is important to note that the technical challenges of repowering with EPA Tier 4 engines could be significant and cost prohibitive for some ship assist and escort tugs. This is particularly true in the case where the engine room overhead does not allow for SCR placement.

The scope of Reference 1 may not have allowed for detailed analysis of all aspects of a repower project. However, this review identified some technical considerations for repowering the representative tug that were not included in Reference 1, but should be discussed. The additional technical considerations are as follows:

Arrangement

As described above, the engine room of a ship assist and escort tug may not allow for the installation of SCRs in the overheard. In these cases, the SCRs may need to be located in the stacks which requires more extensive structural modifications and typically has an impact on the engine room ventilation fan arrangement. This can also create challenges in accessing the SCR for routine maintenance. Figure 2 shows an example of an SCR located in the stack. Note that this was excerpted from a new design.

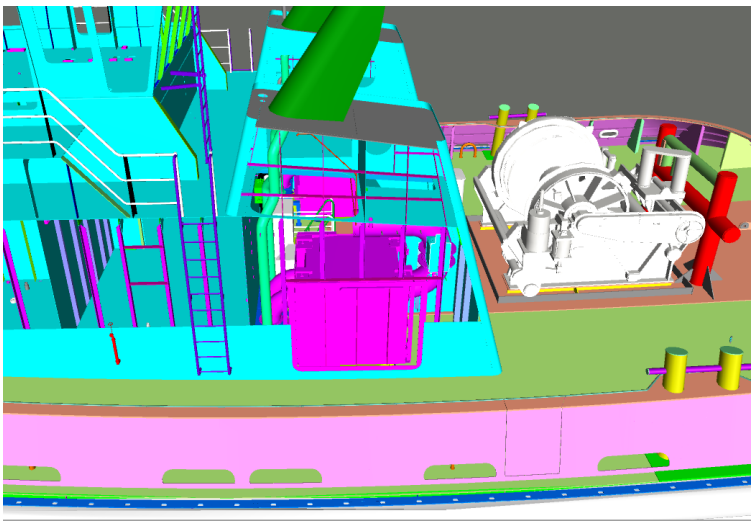


Figure 2: Example of SCR Located in the Stack

DEF Tank and Transfer System

Reference 1 assumes the use of an independent poly/rotomold DEF tank. Jensen has designed several new EPA Tier 4 ship assist tugs, as well an EPA Tier 4 repower project. Each of these projects have used independent stainless steel tanks with the exception of the repower project, which used integral steel tanks with a coating system. The volume of the DEF tank in Reference 1 is indicated as 2,000 gallons, which is smaller than the Jensen projects described above. For

example, new ship assist and escort designs using the 100 ft tug platform have a DEF capacity of approximately 5,800 gallons. Additionally, the Crowley repower project will have a DEF capacity of approximately 6,000 gallons. Since the amount of DEF carried aboard is dependent on the operators bunkering schedule, it is worth noting that some operators will need a DEF capacity greater than 2,000 gallons, which will create additional material and labor costs.

The study doesn't clearly state that DEF should not be kept in the engine room. DEF must be kept in a particular temperature range if reasonable shelf life is to be maintained, this typically precludes DEF storage in engine rooms or similar hot spaces without adequate measures to insulate the DEF tank. Ship owners will need to plan for alternate storage arrangements. The study correctly identifies the Z-Drive room as a viable location for the DEF tank(s). It is important to note that the American Bureau of Shipping's Guide for Exhaust Emission Abatement requires a minimum of six air changes per hour in areas where DEF tanks are located. Z-Drive rooms have ventilation systems sized to limit temperature rise in the space and typically meet the minimum air change requirement. However, if the tanks are located in the Z-Drive room consideration should be given to heating and insulating the DEF tanks if operation in cold climates is intended.

Main Engine Foundation Modifications

Reference 1 notes the repower option requires a different engine make and model. This will likely require some amount of engine foundation modifications; possibly including replacing the rider plates and modifying the foundation height to match the existing shaft line.

Auxiliary Equipment Foundations

Reference 1 doesn't explicitly identify the need for foundations for the engine aftertreatment equipment such as the dosing units and independent DEF tank.

Engine Room Ventilation

Reference 1 doesn't address the amount of engine room ventilation. The SCRs have significant ambient heat rejection which is particularly important when they're installed in the overhead of the engine room. Depending on the make and model of engine, the heat rejection from the SCRs can be 65% of the main engine or greater. This typically requires larger engine room ventilation supply fans; although in the Crowley example, engine room supply fans were not upgraded.

Propulsion Shafting and Z-Drives

Reference 1 does not include modifications to the propulsion shafting, Z-Drives, and propellers which assumes that the EPA Tier 4 replacement engines are approximately the same horsepower and RPM as the existing engines.

Capital Cost

The average total capital cost in Reference 1 is $2,812,000 for equipment and installation costs. The total capital cost budget for the Crowley reference project is $3,700,000 to $4,500,000. The Crowley project includes items that are not included in Reference 1, some of which are necessary for the repower and some of which are included as a matter of convenience. In order to have a more accurate comparison of capital costs, work items in the Crowley estimate not absolutely necessary to the repower were removed from the estimate. The work items, removed for this

comparison, are the new generators and associated exhaust systems and the new keel coolers. Removing these items lowers the Crowley capital cost budget to $3,300,000 to $4,100,000. Table 1 below summarizes the project capital costs.

Table 1: Capital Cost Comparison

	Cal Maritime Study	Crowley Reference Project
Low Estimated Capital Cost	$2,612,000	$3,300,000
High Estimated Capital Cost	$3,012,000	$4,100,000

As a general point of comparison, a previous study developed by Jensen (Reference 2) estimated that the cost to install a DEF system of approximately 4,500 gallons was $375,000 for labor and materials. This estimate assumed an independent stainless steel DEF tank at a west coast shipyard.

It's important to note that it was not the intent of this study is to cover every technical consideration or cost impact associated with repowering a ship assist and escort tug. Further study is required if additional factors are to be considered or more detail is required.

References

1) Cal Maritime "Evaluation of the Feasibility and Costs of Installing Tier 4 Engines and Retrofit Exhaust Aftertreatment on In-Use Commercial Harbor Craft" Prepared for CARB, 30 September 2019.
2) 193062-230-0_0, Tier 4 Engine Installation Study, Jensen Maritime Consultants, 2020.

From: Sause, Cory <Corys@Sause.com>
Sent: Thursday, April 30, 2020 3:54 PM
To: Haynes, Tracy@ARB <Tracy.Haynes@arb.ca.gov>
Subject: Sause Bros Harbor Craft Comments

Hi Tracy,

Thank you for granting a 30-day extension to submit comments. It should be noted that Sause Bros. has participated in and collaborated with CARB officials and Harbor Craft reporting regulations since its inception. We've diligently been upgrading vessel engines on time and in many instances ahead of schedule. Over the years, I've personally worked with Cherie Rainforth and regularly correspond with Zhenlei Wang. In the past year, I've also worked and collaborated with Harbor Craft enforcement officials, Scott Underhill and Michael Sekigahama. All of these CARB employees can verify Sause Bros. commitment and compliance over the years. We strive to be ahead of the industry. That said, the current proposal and deadlines will be impossible for us to meet. I've broken down our comments and suggestions into sections. Feasibility of tug engine repowers, costs associated with proposed tug and barge engine repowers, CARB's proposed fee concept, CARB's vessel count and safety related concerns regarding DPF installation on oil tank barges.

Tug Engine Repower Feasibility-

Sause Bros. owns and operates two types of tugs, ocean-going and harbor/assist tugs. We strongly believe Ocean-going vessels should be treated differently than Harbor/assist Tugs under new rules. The Cal Maritime study only examined push tugs and didn't consider, examine or detail how ocean-going tugs could feasibly install DPF units. Before CARB subjects ocean-going tugs to new Harbor Craft rules and implementation guidelines Cal Maritime and CARB officials need to study and diagram the engine room of an ocean-going tug. Sause Bros. would be happy to provide an ocean-going tug(s) for CARB and Cal Maritime to study and diagram. I've outlined the issues below.

1. Push/Assist tugs- Sause Bros. has 4 assist tugs that operate exclusively in SCAQMD's district (Redondo, Cabrillo and Arapaho and Pono). Three of the four Long Beach based assist tugs (Redondo, Cabrillo and Arapaho) could be repowered fairly easily. These three tugs have the engine room space to accommodate Tier 4 engines and DPF's per the Cal Maritime study. Repowering these three tugs is feasible given CARB's proposed timeline. However, the fourth assist tug (Pono) will be highly problematic to repower since it wasn't originally designed to be an assist tug, it's actually an ocean-going tug subject to tonnage requirements with limited engine room space.
2. Ocean-going tugs- We believe ocean-going tugs under 200 GT should be exempt. It's our understanding CARB has based the proposed regulations on a Tier 4 feasibility study. Note pp. 95 of the Cal Maritime report stating, "This vessel is used to push a specific barge in inland waters. It is not used for coastal voyages." Sause Bros. ocean-going tugs don't operate on inland waters. Push tugs are vastly different than ocean-going tugs. Push tugs have expansive engine rooms while ocean-going tugs are subject to tonnage requirements with extremely limited engine room space. With the exception of Redondo, Cabrillo and Arapaho the rest of our tugs simply don't have the space to accommodate DPF units. Sause Bros. engineers are currently struggling to fit SCR's into new tug designs. Naval architects and our engineers will be able to detail why DPF's aren't feasible for installation on ocean-going tugs. Also, it's highly unlikely we could repower any of our ocean tugs given our engine manufacturer, MTU doesn't currently offer a tier 4 option.

3. Crew and Supply boat repowers- We have 3 crew/ supply vessels (Ford, Hermosa and Ranger) Under CARB's proposed concept, crew boats wouldn't need to be repowered until 2029 and no technology currently exists to repower these boats to Tier 4 + DPF standards.

The biggest hurdle the proposed concepts poses for Sause Bros. is the time line to repower our ocean-going tugs, home ported outside of CA. Even if the engineers and naval architects are able to find a way to fit a DPF unit into these tugs we'd be unable to meet the proposed timeline. Under CARB's proposed concept the Chinook, Cochise, Klihyam and Mikiona would all need to have their main engines repowered by 12/31/2024. It's not easy to replace main engines. It takes months of planning and 3-6 months to repower.

I've included photos of a vessel currently having the very smallest of our main engines (12 Cylinder 1800 RPM) removed to be rebuilt. It had to be substantially torn down prior to removal. It requires that we totally disassemble our factory assembled and bench tested rebuilt engine to re-insert. Without significant deconstruction of the house and vessel we find it cost and time prohibitive to remove and install new equipment finding that displacement and ancillary equipment on many of the new Tier engines has grown to meet both emission and HP requirements.

Costs associated with tug and barge engine repowers-

I've attached an excel spread sheet detailing what it would cost Sause Bros. to repower each tug and barge engine. With regard to modeling and cost analysis we find the proposed "tug" costs noted in the Cal Maritime study definitely misrepresents the total costs involved for repowering Ocean-going Tugs. The excel sheet attached contains engine data for our fleet of equipment that operate in CA as well as general costs associated changing engines to meet the new requirements. We believe our conservative figures UNDER estimate the true costs associated with the changes to engines and vessel systems. The lack of suitable replacement vessel equipment with the ability to replace our fleet that meets customers vetting requirements will make taking vessels out of the fleet for retrofit very difficult from both an operations and cost standpoint. Costs vary significantly from vessel to vessel with those requiring significant changes reaching near the cost of your new build figure of 6 million. New tug construction for our Ocean-going Tugs is almost 3 times your figure at $16,300,000 (We have built two in the last year so these are very accurate figures). Finally, we find that the replacement timeline is extremely aggressive. We currently have a new tug under construction due out later this year, under CARB's proposed timeline it would be required to undergo major reconstruction to meet even basic Tier 4 requirements in a matter of 7 years after construction which we find absolutely unrealistic and unacceptable. It erodes our ability to compete with other transportation options in your area. It would exacerbate the problem in over the road trucking with an increase of 500 fuel trucks on the road for every one of our barges. In the past decade as shown by our data, Sause Bros. has made significant investment in upgrading our fleet to meet and exceed the requirements of CARB.

CARB's Proposed Fee Concept-

We believe any new Harbor Craft rules and regulations need to clarify the difference between PERP and Harbor Craft engines. All of the engines on our barges are currently registered, paid for and inspected under the PERP program. However, they're also registered, tracked and inspected by Harbor Craft. Numerous Harbor Craft/CARB officials have admitted barge engines aren't portable and shouldn't be subject to PERP regulations. Unfortunately, SCAQMD enforcement officials believe these barge engines should be enrolled in PERP, and subject PERP fees and inspection regulations. Sause Bros. suggests Harbor Craft adopt the PERP fee model. Our barge engines, currently enrolled, paid for and inspected should be able to roll over into a Harbor

Craft fee structure at the engines next renewal date. We shouldn't be subject to **both** Harbor Craft and PERP registration, fee and inspection programs. Further, we shouldn't have to re-register and immediately pay a Harbor Craft fee for barge engines currently enrolled and paid for under the PERP program. Harbor Craft could easily use a form similar to PERP's to register and pay for tug engines. Each tug engine would be issued a color coded placard with a Harbor Craft sticker that's valid for 3 years. The PERP model, fee structure and inspection program has proven workable over the years.

CARB Vessel Count -

Fundamental to the proposed regulations is an understanding on behalf of CARB staff that, over one third of subject vessels, as stated in the proposed concepts paper or 48%, in the web presentation, operating in California have not satisfied the reporting requirements of CARB's regulations. This number is arrived at by comparing the number of vessels that report to CARB and vessels that list a California hailing port on their U.S. Coast Guard Certificate of Documentation as of May 2019. This understanding is wrong on several fronts. It does not recognize how hailing port is determined, it includes vessels that are not operating and it does not recognize that many of these vessels have no engines at all.

Additionally, while it includes fishing vessels in the count it does not propose in-use requirements for this type of vessel. This misconstruing of the data makes the assumptions on impacts of the emissions from vessels and benefits of the proposed regulations nebulous.

Under U.S. Coast Guard vessel documentation regulations Hailing Port is not closely defined and does not necessarily mean the Port in which the vessel operates 46 CFR 67.119 Hailing port designation only requires that the owner of a vessel must designate a hailing port to be marked upon the vessel and that the hailing port must be a place in the United Sates and include the State, territory, or possession in which it is located. Generally, this is the port in which the managing owner of the vessel has their office, or which is nearest to their office; the home port of a vessel. This means the hailing port has more to do with the vessel ownership then where it operates. This is not always consistent and when vessels are sold the hailing port does not always get updated to reflect this change. Due to the constantly changing operations of vessels rarely does the hailing port get updated just because the vessel starts operating in a different port. Relying on hailing port as a measure provides an inaccurate count of vessels potentially subject to CARB regulations as many of these vessels do not operate in California.

The CHC vessel population scaled up to match U.S. Coast Guard of 3698 is misleading as it includes vessels not operating and it is unclear how CARB broke out the other vessels as the CARB vessel categories don't match the USCG categories. This list includes 915 vessels whose COD status is Case Pending, Expired, Invalid, or No-Operation. This 25% of the vessel list and should not be counted as they are not allowed to operate without a valid COD. The list also includes 191 vessels that are Unclassified, Unspecified or Unknown in the U.S. Coast Guard data so how these vessels got classified by CARB is impossible to determine. If they were assumed to have engines as part of the emissions calculation or that they required CARB reporting this is concerning. For example, 15 of these vessels are flexifloats Construction System by Robishaw Engineering which are a combination of portable, interlocking modular barges and ancillary attachments, designed for use in inland marine, heavy-construction applications. These vessels are small barges 40' or less and do not have their own propulsion. Even for vessels that are classified how CARB counted them is suspect as of the three Sause Bros. vessels on the list only one the Hermosa has engines the other two are barges with no engines at all. With more time additional examples of vessels that should not be on the list could be identified. Without transparency from CARB however this cannot be done and the assumptions made are suspect.

Of the vessels on the U.S. Coast Guard list with a valid COD 1,069 of them are Commercial Fishing vessels. These vessels represent nearly 30% of the overall fleet included in the count of vessels that are not reporting to CARB and as vessels that contribute to the overall emission inventory yet they are not being included in the proposed "in-use" requirements. CARB's rationale for excluding fishing is based on "the small profit margins in the industry, demonstrated lack of feasibility for Tier 4 repowers and retrofits, competition with out of state and global markets, and tendency to conduct the majority of their operations far from the coast." This is equally applicable to ocean-going tug boats and is not justifiable if they represent such a significant part of the overall fleet.

The justification for the burdensome Facility Reporting Requirements and Vessel Identifiers and the very justification of the proposal based on Emission Inventory Methodology is all suspect based on the vessel count provided by CARB. As reported to CARB already commercial vessels have many unique identifying numbers including the USCG Documentation Number, the International Maritime Organization number, Call Sign Number and Maritime Mobile Service Identify Number. Instead of creating an entirely new numbering system CARB should develop a methodology that utilizes existing technology and databases of these numbers to create an accurate vessel count.

Safety concerns regarding DPF Installation on Tank Barges -

Sause Bros. has significant concerns on the safety and design perimeters of installing DPF's our oil tank barges. We would like to see CARB closely examine having DPF's on oil tank barge engines. ABS, USCG, and OCIMF should weigh in on the safety issues prior to rule making.

In conclusion, thank you for taking the time to consider our suggestions. Sause Bros. has been working steadily for the last two years to prepare our current class of Ocean-going Tugs for Tier 4 requirements and expect our next build to meet federal Tier 4 requirements utilizing DEF. Our preferred MFG is utilizing DEF and will not be integrating DPF. In addition, DPF is not a feasible solution for our Ocean-going Tugs due to limited engine room space and US tonnage requirements. We believe due to the technical inability Ocean-going Tugs should be exempted from the current proposed requirements for Tier 4+ DPF. That said we do see the feasibility of meeting these requirements in our harbor/assist tug fleet though we do not currently know of an engine manufacturer that is factory installing DPF equipment and serious questions about warranty with the addition of aftermarket DPF technology remains in both over and under 600KW engines.

Please let me know if you have any questions or if Sause Bros. can help.

Best,

Cory Sause

VP HSQE

Sause Bros.

(503)915-6635

AMNAV
MARITIME

April 30th, 2020

David C. Quiros
Manager, Freight Technology Section
Transportation and Toxics Division
1001 "I" Street
Sacramento, CA 95814

Re: Proposed Concepts for Commercial Harbor Craft in California

Dear Mr. Quiros:

We appreciate the opportunity to comment on the "Proposed Concepts for Commercial Harbor Craft in California." Since 1976, AMNAV Maritime has been the leading provider of marine and harbor services in the San Francisco Bay area. Established on the "best value" service solution, AMNAV has expanded operations to Los Angeles/Long Beach, and continues to be a leader in ship-assist, tanker and barge escorts, marine construction support, salvage, emergency response, military operations, shipyard vessel assist, logistics for oversized equipment, and vessel and barge towing services. Committed to providing the "Best Value" with the highest standards in reliability, safety and environmental stewardship, AMNAV Maritime boasts a wide range of modern vessels. Our diverse fleet with horsepower in excess of 5,000, including ASD/Z-Drive tractor and conventional, twin-screw equipment, AMNAV is always able to meet the precise needs of our clients. We are privileged to do business in California and committed to be a proactive partner in the regulatory process with CARB.

It is our sincere desire to be a constructive participant in the rule making process and provide comments that will enable CARB to form meaningful regulations that promote the goal of cleaner air without doing irreparable damage to an industry that all Californian's rely on to deliver and support the delivery of their essential goods and services. Our experience with the first Hybrid Tug technology deployed in California waters and the first conversion of a conventionally powered vessel to Hybrid technology makes us uniquely qualified to comment on the concepts proposed by CARB. Our comments follow the table of contents for your Proposed Concepts Commercial Harbor Craft (CHC) Regulations. You will find our responses to the Staff Questions for Stakeholder Input.

Concept I: Expanding Vessel Categories Subject to In-Use Requirements
We want to be clear that we concur with CARB's reasoning and support the exclusion of the commercial fishing vessels from the proposed regulations. However, we would ask CARB to consider that those same points can be made about other vessel categories that are included in the list of regulated CHC. Under the heading of Justification/Reasoning, CARB sites their reason for not including commercial fishing vessels, as: "the small profit margins in the industry, demonstrated lack of feasibility for Tier 4 repowers and retrofits , competition with out of state and global markets, and tendency to conduct the

majority of their operations far from the coast." All these points can be made regarding tank barges over 400 feet and 10,000 gross tons and the tugs that tow them. These vessels operate in stiff competition to both international tankers that are able to move supply to and from foreign ports, US ocean going tankers that are exempted and trucks and rail that while regulated by CARB present a much higher emission profile per ton of cargo moved than their marine counterpart[1]. Further their routes are those of ocean-going vessels and not CHC, and we feel they should not be unduly burdened with regulations that don't apply to their competition.

It is our belief that CARB should determine the applicability of the CHC rules based on the service the vessel is performing, rather than generic classification of the vessel. We would propose the following amendments:

- *A vessel engaged in ocean voyage or a barge engaged in ocean voyage shall be exempt from the CHC rules. The following shall be the criteria for defining an ocean voyage exempt from regulation under the CHCRs.*
    - *A tug and loaded barge, whose arrival or departure is transporting a cargo with the destination outside of the load ports line of demarcation and beyond the 24nm control zone.*
    - *A lite tug and barge, whose arrival or departure is for the purpose of loading a cargo with a destination outside of the load ports line of demarcation and beyond the 24nm control zone.*
    - *Any moves or engine hours within the line of demarcation that is solely for the purpose of preparing for an ocean voyage as defined above.*

  So long as the vessels movements comply with the criteria above, they will not be required to comply with the CHCR, nor count any hours against the low-use operational requirements of the regulations.

We believe adopting the service-based criteria above will ensure that barge moves that are clearly ocean voyages are not unduly burdened versus other modes of transportation that serve the same markets. This would also preserve the intent of the CHCRs to ensure that vessels performing services inside of the regulated control area are subject to the regulation.

Concept II. More Stringent In-Use Requirements

AmNav has a long history of working with CARB and other agencies to reduce the air emissions from our fleet ahead of regulatory requirements. This includes:

- Upgrading the tug Liberty to Tier 2
- Upgrading the tug Sandra Hugh to Tier 3
- Upgrading the tug Revolution to Tier 3
- Upgrading the tug Sandra Hugh to Tier 3 (June 2020)
- Upgrading the tug Independence (January 2021 Tier 2 to 3 100% funded by AmNav)
- Completing a Tier 4 Harbor Assist Tug in 2020 with three to follow in 2020/2021 replacing tugs that are tiering out due to the current CHCRs, but not done with their useful life.

[1] All Figures adapted from Texas Transportation Institute, "A Modal Comparison of Domestic Freight Transportation Effects of the General Public: 2001-2014," January 2107, as reflected in the PricewaterhouseCoopers industry study.

There are other repetitive down time costs when introducing new rules. For instance, going from Tier 2 to 3, requires drydocking (installation of higher capacity cooling system) and engine rebuilding. The vessel is out of service (not making money) for over 30 days. With the new rules we would have to shut this tier 3 tug down again. This will be magnified when we are looking at conversions to Tier 4, and the additional cost and downtime associated with the operation of those systems.

Through all these projects we have learned many lessons about what works well and what does not. The key to every successful project is having a complete understanding of the technology we are working with, using proven components, taking the time to properly engineer and plan the project and being able to operate the vessel long enough after the modifications to offset the capital expense of the project. These lessons learned inform our comments below.

Marine Harbor Craft applications are unlike the shore-based power installations that CARB draws parallels in justifying the requirement for DPFs. Specifically stating that DPFs are "widely commercialized and proven technology on light-duty and heavy-duty equipment that has been used on-road, off-road and in port applications." The evidence contradicts this comparison. Concern is that to date there has been little marine application of DPFs. The size of our engines and available space for installation makes a DPF installation extremely difficult. The back pressure created by a DPF on the exhaust system may exceed the tolerances of many of our existing or future engines to properly operate. Many if not all our vessels currently have no OEM approved DPF available for the engines. Until one is available, and its characteristics defined, we cannot begin the process of determining if it is feasible to operate with a DPF.

The application of DPFs will also have to consider that the duty cycle of a marine vessel, is unlike that of on-road, off-road or port application equipment. As noted in CARBs proposed concepts "escort and harbor assist tugs have a highly variable duty cycles operating with relatively larger engines but lower average loads . . ." Additionally, our vessels also use their engines as the primary mode of braking and often maneuvering. Doing so requires the rapid acceleration and deceleration of the engines. Operators do not have the luxury of shore-based equipment that can maintain a much more moderate increase of power through multi-ratio transmissions and the gradual application of fuel. On vessels, power is often needed immediately to avoid collision, allision or losing propulsion. Overloading the propeller and stalling the engine is a real risk when maneuvering in tight quarters. For this reason, the manufacturer provided fuel curves must be very dynamic, considering the variable nature of the load requirements of the engines. This variable engine loading is exactly the situation that has caused many of the issues, including fire and premature failure, that other industries have experienced when they attempted to incorporate the use of DPFs.

The process of repowering or modifying the propulsion or power generation plants of a marine harbor craft takes years to plan, obtain regulatory approval and execute. The planning and engineering must begin years prior to commencing the work and even relatively simple changes must be evaluated against the impact to the vessel's stability, maneuverability, available space and watertight integrity. Each component's specifications, characteristics and operating parameters must be known far enough in advance to ensure a thorough design review and engineering process that can take place. Engineering can take from 3 to 9 months depending on the complexity of the project. Many projects will also require the approval from the vessel's Class Society or the USCG, which can add months to the timeline. It can then take an additional 3 to 6 months to identify a shipyard and negotiate a contract for the modifications. When you add this up, the process must begin years before the work is to be done, and

the process can only begin when all the equipment that is to be used has been approved and accepted for the purpose.

The costs identified in the California Maritime Academy report do not reflect the entire financial impact of performing these modifications. With only a few tugs in our regional fleets, losing a single vessel has significant economic impact either in lost revenue or in the cost of sourcing a temporary replacement tug. While each situation is unique a conservative cost would run well above $5,000 per day. With a conversion from Tier 2 to Tier 4 engines taking upwards of 2 months the cost the company will endure will be 100's of thousands not captured in the CMA report. To minimize the downtime, our engineering teams will generally begin the process years in advance, with work timed to ensure the modifications can be completed during one of the vessel's scheduled yard or other planned maintenance periods.

With all these challenges in mind, we encourage CARB to consider modifying their proposed rules as follows:

- *Expanding the implementation dates to better recognize the investment owners have already made to comply with previous regulations, we would ask CARB to adjust their implementation dates to allow any engine that is currently in compliance to be able to operate at least 20 years from the date it went into service without modification. For instance, AmNav has a new vessel currently under construction that under the current proposal will be required to have DPFs installed by 2028, less than 8 years after it was built. A modification that was not foreseen during the design and planning stage of the vessel.*
- *Additionally, any engine modified to comply with the current regulation should be allowed 15 years at a minimum, from the date it was modified, before being compelled to comply with the new CHCR.*
- *Delay the implementation date for installation of a Diesel Particulate Filter (DPF) to 5 years after a model approved by both the manufacturer and appropriate regulatory authority is available. Only when the exact characteristics and specifications of a DPF are known can a company begin the engineering and planning necessary to determine if the project is feasible and then schedule a time to do the work.*
- *Tugs where it proves infeasible to install a Tier 4 engine and a DPF will be considered in compliance if they are Tier 3, with a DPF.*
- *Company's should be afforded the ability to defer projects in one-year increments beyond the implementation date to avoid having to manage multiple projects in the same year.*

Concept III: More Stringent Requirements for New-Build Vessels

New-Build construction allows us to overcome many of the hurdles present in the conversion of an existing vessel. However, new builds are not without their challenges. Most notably, a new build program is part of a company's long-term strategic plan, designed to meet their customers' needs and remaining competitive in the market. Vessel designs are completed years in advance, with the actual construction process taking more than a year to complete. Most build programs involve the delivery of multiple vessels allowing the owner to take advantage of the lower cost series construction and reduced operating costs associated with having a homogenous fleet. Common spare parts, similar repair procedures and common operating characteristics all helps to make an operation more efficient. Changing vessel plans in the middle of a build program can be costly and disruptive to the company's ability to successfully compete. As stated in the concept document, CARB's vision is that "New build vessels can be designed around the cleanest available equipment and present the best opportunity for cost-effectively reducing emissions from harbor craft in California." If owners are expected to meet this vision, we would ask that they be given the time necessary to incorporate the final rule into a well

thought out build strategy.

To do this we would encourage CARB to consider the following comments/recommendations to their proposed concepts:

- *Set the implementation for the requirement to install a Diesel Particulate Filter (DPF) to 5 years after a model approved by both the manufacturer and appropriate regulatory authority is available. Only when the exact characteristics and specifications of a DPF are known can a company begin the engineering and planning necessary to determine if the project is feasible and then schedule the time to do the work.*
- *Any vessel completed before this point should be allowed to operate 15 years before being asked to re-engineer and add the DPF.*

Concept IV: Mandates for Zero-Emission and Advanced Technologies

As with Concept III, a technology change of this type will take time to plan and incorporate in existing vessel designs. To facilitate this process, we would ask CARB to consider the following comments:

- *Extend the phase in date to 5 years after the rule goes into effect. This will allow companies the time to properly transition their build programs to incorporate the new technology.*
- *Clarify the phase in date as the "Keel Laying Date", defined in 46 CFR 30.10-37.*
- *Clarify the expectation. Currently the documents reference a specific technology employed by one tug company. There are many competing technologies that achieve the same effect. What will be the test for a compliant system?*
- *Can you clarify under the Zero-Emission Capable Hybrid, would a company be allowed to average the percent of power from zero-emission sources over 24 hours? In other words is it CARBs intent that at all times and in all modes you must be drawing 30% of your power from non-tailpipe emission sources, or just that 30% of the power you use over a period of time comes from non-tailpipe emission sources?*

Concept V: Removing Exemptions for Under 50 horsepower

Vessel's carry several "portable" engines for a variety of purposes. These include trash and salvage pump motors for dewatering compartments and outboard motors for skiffs.

- *Can you clarify if it is CARBs intent to have these engines fall under the CHCR?*

Concept VI: Requiring Replacement Vessels for Certain Vessel Categories

Tug and Barge owners have in good faith built and designed vessels in compliance with federal, state and local laws and regulations. A jurisdiction should not be able to enact a new set of regulations that prevent an owner from realizing the benefit of their investment. We would ask CARB to consider the following comments:

- *As stated in our comments under Concept II we would ask that no vessel be required to modify an engine sooner than 20 years from the date it first went into service. If at that time an owner can prove both that the upgrade is not feasible and that it would present a financial hardship to meet the date an extension would be granted.*
- *As stated in our comments under Concept II any engine modified to comply with the current regulation be allowed 15 years at a minimum from the date it was modified, before being compelled to comply with the new CHCR. If at that time an owner can prove both that the upgrade is not feasible and that it would present a financial hardship to meet the date, an extension would be granted.*

Concept VII: Compliance Extensions
While we concur with the need for extensions as it is not only likely but almost certain that there are vessels within the current harbor craft fleet for which it will not be feasible, nor financially sustainable to comply with the new regulations. The challenge will be in defining the very subjective terms of "feasible" and "financial hardship". We offer the following comments.

The determination of what is or is not feasible often bleeds into what is or is not financially viable. In the CMA study they found that it was not feasible to retrofit a SCR and DPF on the representative ship assist tug. However, their conclusion was based on the amount of work that would have been needed to modify the vessel to safely house the systems. Simply put, it would not be practical because the cost would far exceed the value of the modifications.

CARBs intent to assess financial hardship of complying with a regulation, based on the financial health of a company is fundamentally the wrong approach. The effect of such a methodology would be to potentially prop up companies that are struggling financially by allowing them to avoid regulation and gain an economic advantage over companies that are financially sound. Regulators should not be in the position of bailing out companies, but rather they should strive to create an equitable regulatory regime. We would argue that financial hardship should be measured in the impact on an assets ability to compete. If due to the vessel's design or configuration the modification required to comply is so expensive that performing the modification would render the vessel too costly to be profitable then relief should be given in the form of an extension. In order to achieve an equitable measure of both the feasibility and hardship measure we would ask you to consider the following revisions:

- *Modifications whose estimates, as verified by a yet to be determined third party or agency, exceeds the High Estimated Cost as offered in the CMA Report, and adjusted for inflation, would be granted an extension.*

This would provide a much simpler and more equitable approach to granting extensions and would be very similar to the methodology used in the CMA study.

Concept VIII: Alternative Compliance Pathways
We need a defined submittal plan, requirements and package to access and comment effectively on this concept. Under the existing regulations we petitioned CARB to recognize that the emission profile for the Hybrid Tug CAROLYN DOROTHY was already favorable to that of a vessel with the Tier Engines to which we were being required to upgrade. As explained to us, CARB was unable to look at emissions over time as the offset to point of time emissions.

- *Has CARB changed their position on this issue, and will they be willing to look at 24-hour profile versus a point of time approach?*

Concept X: Proposed Implementation Timeline

- *See comments under Concept II & III*

Concept XI: Idling Limits and Shore Power Requirements
AmNav supports the idea of minimizing idle time as a way of reducing unnecessary emissions. Further we feel 15 minutes is adequate time to perform a proper start-up and shutdown, except where a watch change has occurred and the individual responsible for the machinery must ensure everything is running properly. We offer the following comments and questions.

- *Is our read that the initial daily startup allows for an additional 15 minutes, for 30 minutes total. If so, we would ask that the wording be changed to recognize that a watch change would constitute a new work period.*
- *We are concerned by the unintended consequences this might have on finding adequate lay berths. Unlike ferries we do not transit between two docks that are dedicated to our service. Outside of our home dock, we have arrangements with several facility owners to utilize their docks in between ship jobs and barge moves. Most of these locations do not currently have infrastructure to provide shore power connections, so while we can shutdown our main engines, we must still run our generators. We believe most of these operators will deny us the ability to dock, rather than make the investment in shore power or deal with the increased regulatory burden. There is simply not enough money in it for them to make that type of investment. This will force us to idle in the harbor between jobs or return across the harbor to our home dock increasing our fuel burn and emission output. We suggest CARB look at an incentive-based program for facilities to get credit for providing shore power infrastructure to the Harbor Craft vessels.*

Concept XII: Facility Infrastructure

We have similar concerns about the requirements of this concept driving facilities away from providing moorage to Harbor Craft. We currently struggle to find suitable locations around the ports in California to moor our vessels. Most port operations are looking to maximize their waterfront space on cargo and other high revenue generating activities. While moorage for Harbor Craft is essential to the port economy, it is often lost on the individual facility operator. As mentioned in our comments under Concept XI, we worry this will drive more and more facility operators away from offering moorage.

Concept XIII: Reporting – Facilities

As with Concept XI and XII the additional burden of reporting will likely have a negative impact on those facilities willing to rent or lease space to harbor craft. *Our recommendation is that negative impact on our CHC's ability to tie up and reduce emissions will offset any potential upside to CARB of finding potential non-reporters.*

Concept XIV: Reporting – Operators

In general, AmNav does not take issue with the increase in reporting requirements, so long as it does not come with an unnecessary administrative burden. To that end we request CARB consider the comments below:

- *In developing the form for input, care should be taken to ensure data can be uploaded in batch or bulk form from a database or spreadsheet. We would be opposed to an annual reporting requirement that involved filling in the individual fields for each vessel in our fleet, creating hours of unnecessary work.*
- *We have concerns with the switch to engine model year, which does not reflect accurately how long the engine has been operated or how long the owner has had to recoup his investment. We would much prefer CARB use the initial in-service date as the baseline for determining any implementation dates for that engine.*
- *We believe CARB misunderstands the term Home Port. Home Port or Hailing Port as defined in the CFRs is "the name of the port from which a vessel hails, required by law to be painted on the stern of all documented vessels in the United States; the port in which the managing owner of the vessel lives, or which is nearest to his place of residence; the home port of a vessel." It is not*

intended to indicate where a vessel is being operated. CARB may want to ask that specific question.

Concept XV: Vessel Identifiers

We recognize that properly tracking vessels is a critical part of implementing any regulation. And while it is true . . . "There is currently no single identifier that can be used across all vessel types…" every vessel covered by the regulation will have either an Official Number, IMO Number or CF Number that will be unique. *Our recommendation is that vessels be required to provide CARB one of these numbers for tracking and those vessels that are not already required to display their chosen identification number, could be required under the regulation to do so.*

Concept XVI: Opacity Testing

The proposed rule is unclear in the method of testing that will be used for Harbor Craft. As described earlier in our comments, Marine Harbor Craft have a highly variable duty cycle. Engines must be tuned such that they can successfully accelerate and decelerate to provide the vessel with the power, maneuverability and braking necessary to safely operate. The text of the Concept suggests that CARB would like to test during the transitional phase of our fuel map (accelerating or decelerating the engine) and not at steady state (i.e. at constant RPM under a consistent load) where the engines were designed to operate most efficiently. The result will be almost certainly some level of smokiness. Tuning the engine to get rid of this momentary smokiness will put the engine at risk of stalling or shutting down just when the operator needs an immediate response. To ensure the engines are tested in the manner that they are certified by the EPA we ask CARB to consider:

- *Any Opacity testing of marine equipment should be done at steady state, either prior to or post acceleration/deceleration.*
- *Testing should not be annual and serves no purpose other than to increase the operating cost and down time on the vessel. Like automobile emission testing it should be based on known risk factors such as age of the equipment and history. Propose once in the first 5 years to set a baseline, then every 5 years after that.*
- *Opacity testing should not be required for vessels qualifying under the low-use operating requirements.*

Concept XVII: Applicability and Exemptions

No comments currently.

Concept XVIII: Compliance Fee

Compliance with this new regulation will cost companies millions of dollars in upgrades. A fee on top will be an additional burden that will be shared by our shareholders, customers and the end consumer. We ask CARB to do everything possible to minimize the cost of administration, including reducing the frequency of reporting and opacity testing to minimum required to regulate the rule.

- *We would propose a fee based on the size of fleet and number of engines, with a cap. Suggest something about $100 per year per engine, up to $400 per vessel, with a cap of $2,000 per company fleet.*
- *We would be opposed to any fee that was based on hours or activity as neither impacts the work required by CARB to regulate nor should it be there be a penalty for being busy.*

Additional Comments

Overstatement of CHC Air Emissions

AmNav has serious concerns that CARB has relied on inaccurate information to justify the proposed regulatory concepts. We see no justification for upwardly scaling the CHC vessel population from the February 2019 reported figure of 1,928 vessels to align with a U.S. Coast Guard dataset showing 3,698 vessels. The misuse and misinterpretation of the data set has led to CARB artificially inflating California's vessel population and consequently the overstatement of air emissions from towing vessels in California.

While our examination of the data was hampered by our company's response to the COVID-19 crisis and CARB's unwillingness to extend the comment period, we can still safely conclude that there is no rationale for CARB making the conclusion that our industry is under-reporting in any significant way. We find the following flaws in CARB's use of the dataset and the conclusion they draw from the data.

- CARB is confusing Hailing Port with area of operation and counting vessels that do not operate in California as non-reporting vessels.
- CARB is counting vessels that are either not properly documented to operate or are no longer in commercial service because of their age.
- CARB failed to use readily available sources of vessel information to validate their assumptions.

All California harbor craft must maintain and provide extensive records of operation pursuant to 17 California Code of Regulations (CCR) § 93118.5. But CARB is asserting that nearly half of the harbor craft in California do not comply with reporting requirements – i.e. 1,928 CHC operators report their operations to CARB while U.S. Coast Guard data reflects an additional 1,770 vessels with hailing ports from California. CARB's incorrect starting assumption is that "hailing port" is synonymous with operating area and that 1,770 vessels are not only not reporting but are operating with hours that are equivalent to the industry average per vessel. A vessel is not required to set their hailing port as the area they operate in and hailing port is more often reflective of the owner's offices or state of legal presence. In truth towing vessels reporting to CARB have hailing ports in many states. This lack of rigor suggests that CARB is inflating the number of purported CHC vessels to demonstrate a greater risk to the airshed and to help justify the proposed concepts.

CARB's use of the Coast Guard dataset is also flawed because many vessels included in the dataset are not legally allowed to operate under current regulations. AWO discovered that at least 37 of the tank barges in the list are built before 1983 – most likely with single hulls and legally prohibited from carrying oil in U.S. waters. These vessels likely do not operate in California or anywhere else. Other vessels in the dataset lack Certificates of Documentation (COD) and therefore cannot legally operate in U.S. waters. All told, from the data that AWO members had extraordinarily little time to review, at least 69 out of 217 towing vessels included in the Coast Guard's data have either expired CODs or work outside California.

CARB references 244 as the number of towing sector vessels, excluding barges and tank vessels, within California (13 ATBs, 73 ship assist/escort tugs, and 158 near-shore/ocean-going vessels). Based on the

above we know this number to be inaccurate. To find the facts our trade organization, AWO, obtained towing vessel population data from the Marine Exchange of Southern California and the San Francisco Marine Exchange, data clearinghouses for vessel activity throughout the state. This data included details on all tug escorts, assists, tank barge escort transit logs and an AIS search for active towing vessels in SF, SoCal, San Diego and Port Hueneme. This data showed that in the two-year time period a total of 142 vessels, classified as towing vessels by the USCG, were active in CARB regulated waters. This includes 13 ATB units that call these ports and more than 10 tug barge combinations that called less than 10 times in the two years, likely leaving them well below the 300 / 80-hour low operation limit. We concur with AWO's conclusion that CARB should also disclose its exact methodology for determining its vessel inventory and justify its decision to augment that inventory with misinterpreted Coast Guard data of questionable applicability.

Conclusion

AmNav appreciates the opportunity to comment on CARB's Proposed Concepts for Commercial Harbor Craft in California. We hope CARB will take note of both our concerns captured in our comments and our recommendations. It is our desire to continue our long and effective collaborative relationship with the State of California and CARB. The proposed concepts present a significant change in policy direction for CARB from incentive-driven emission control programs to prescriptive and mandatory emission control programs. We have proven over the years that the previous approach not only achieved the desired results in terms of emission reductions, but it also fostered successful technology innovations, well-managed industry costs, and substantive air quality improvements. As a final comment we would ask for CARB to relook at modeling what has worked in the past and propose an incentive-driven emission control program.

Sincerely,

Milt Merritt
President

Cc; Charles Costanzo, AWO's General Counsel and VP - Pacific Region

WETA WATER EMERGENCY TRANSPORTATION AUTHORITY

BY EMAIL

April 30, 2020

Mr. Richard Corey, Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814
Richard.Corey@arb.ca.gov

SUBJECT: Comments on Proposed Concept for Commercial Harbor Craft in California

Dear Mr. Corey:

The San Francisco Bay Area Water Emergency Transportation Authority (WETA) is a regional public transit agency tasked by the California Legislature both with operating ferry service on the San Francisco Bay and with coordinating the water transit response to regional emergencies.

On March 26, 2020, WETA wrote to request that the California Air Resources Board (CARB) extend the comment period for the Proposed Concept for Commercial Harbor Craft in California (Proposed Concepts), in acknowledgment of the ongoing COVID-19 crisis and its impact on our operation. We made it clear that the shelter in place orders made it impossible for us to provide thoughtful and complete comments on the Proposed Concepts at this time and requested that you defer this process for six to twelve months. In response, CARB announced a 30-day extension, until April 30, 2020.

I am writing today to reiterate that the scale of the impact of the pandemic on WETA's system is such that the 30-day extension for comments simply has not provided us with enough time to complete our work on this initiative. As the largest public transit ferry operator in California, we want to provide you with the thoughtful, constructive input that you have requested. However, developing answers to the questions that you raise in Part 3 of the regulations requires work on our part that has been impossible to complete with our near-full attention focused on response and recovery from the crushing impact of the COVID-19 pandemic on our operations and finances.

With this said, I am committed to continuing to allocate resources to this effort as I can and providing you with input on this subject as early as the end of next week. I hope that you understand the impossible situation that we are in and that you will be flexible in considering our input when provided.

We look forward to our continued partnership and in working with you and your staff to ensure that the end-result of your rulemaking process reflects a realistic, deliverable approach to advancing cleaner technologies in the ferry transportation sector.

Best Regards,

Nina Rannells

Nina Rannells
Executive Director
San Francisco Bay Area Water Emergency Transportation Authority

c: David C. Quiros, Manager, Freight Technology Section - Transportation and Toxics Division

From: Jim Haussener <jhaussener@aol.com>
Sent: Thursday, April 30, 2020 5:06 PM
To: Haynes, Tracy@ARB <Tracy.Haynes@arb.ca.gov>; ARB Commercial Harbor Craft <harborcraft@arb.ca.gov>
Subject: Comments on Proposed Concepts for Commercial Harbor Craft in California

Good afternoon,

I am generally not supportive of the proposals as they relate to excursion, charter fishing and recreational vessels.

Generally, the documents do not reflect a need to require the proposed actions by showing what the reduction in pollutants, by type, corresponding benefits, collective costs to vessel owners and the prospective reduction in vessels providing outdoor recreation such as fishing and diving.

I do not understand and oppose the concept of a "unique" identifier. What is the purpose of such a number? How large will it have to be? Where will it have to be placed? To correct your document, the Coast Guard does require for commercial vessels the vessel name to be on both sides of the bow and across the stern along with the "hailing port" on the stern. I am opposed to the concept as it is an additional burden on the regulated public with no benefit identified.

If you wish to have a regulation, then the State of California should bare the burden of the cost, not those who own or operate excursion vessels, charter fishing vessels or recreation vessels.

I own a Coast Guard documented vessel and I receive on an annual basis a form from the county assessor asking for information. Why do you need more information and please provide why you need each line of information you have listed. Further, why do you need it on an annual basis?

To my understanding you did not provide a rational for the opacity requirements and these should be removed.

You have the comment that Diesel -powered recreational vessels primarily used for pleasure are under evaluation for being exempt from proposed future harbor craft requirements. Who is making that evaluation, under what authority is the evaluation being undertaken and what notice has been given to the recreational boating community?

Concerning the report you had commissioned with the California Maritime Academy.

Why are your proceeding when both Table 1 and Table 2 reflect "No Fitment Identified" for Charter Fishing?

In Table 2 the Average Vessel Replacement Cost of $1.3 million may understate costs. How many vessels are being discussed for Charter Fishing? And, what are their specific sizes?

How many Charter Fishing or Excursion vessels have drawings and stability information available so that decisions can be made by the Coast Guard to allow such modifications to "inspected" vessels? What is the cost of having a having a stabilization study performed and then approved by the Coast Guard?

I believe you need to provide the public with significantly increased information as to what the public benefits, public loses and private costs will be before proceeding further.

Sincerely,

Jim Haussener
Castro Valley, CA

R. E. STAITE ENGINEERING INC.
ESTABLISHED. 1938 CLASS A LICENSE. 654631

Delivery via e-mail to: david.quiros@arb.ca.gov

April 30, 2020

California Air Resources Board
Transportation and Toxic Division
P.O. Box 2815
Sacramento, CA 95812

Attn: Mr. David C. Quiros, D.Env.
Manager, Freight Technology Section

RE: Public Comments

Subject: Proposed Concepts for Commercial Harbor Craft in California, Document 1 of 3: Requirements for Cleaner Combustion, Zero-Emission, and Advanced Technology on New and In-Use Vessels

Dear Mr. Quiros:

R.E. Staite Engineering, Inc. attended the March 5, 2020 Commercial Harbor Craft webinar presentation and has also reviewed the Proposed Concepts for Commercial Harbor Craft in California Document 1 of 3: Requirements for Cleaner Combustion, Zero-Emission, and Advanced Technology on New and In-Use Vessels document, dated February 27, 2020. Our company has discussed the proposed regulations and the impacts it will have on our business. Our primary concern is the cost and timing to upgrade our equipment to Tier 4 + DPF compliance. We have been diligent with budgeting for and making required improvements to our fleet, but the new policy will require millions of dollars of changes to our equipment within a very short timespan, which will be a devastating blow to our company. Our place in the marine market is unique, and we have detailed how the proposed changes regulations will affect our company; we would like our suggestions to be incorporated into any revisions made to the proposed policy. Our concern is that the proposed changes to policy are so insurmountable, it will guarantee the elimination of small marine business in California over time.

R.E. Staite Engineering, Inc. (RES) is a small, family owned, marine construction business that has been in business since 1938. RES is headquartered in San Diego and also has a small office on Mare Island, Vallejo, in Northern California. RES is a recognized and respected dredger and heavy marine construction contractor within the industry. Our company has 50 employees or less for the majority of the year. RES specializes in projects for government agencies with an emphasis on dredging and pier/wharf infrastructure repairs. R.E. Staite is self certified as a small business enterprise in the Federal System for Award Management (SAM) for a variety of NAICS codes.

R.E. Staite's marine equipment includes tug boats, derrick barges, crane barges, flat deck barges with 50 to 450 ton crawler cranes, dump scows, support barges and Flexi-Float barge units. Because the cost of new marine equipment is so exorbitant, purchasing older equipment is often the most affordable way to upgrade a fleet, meaning the majority of our equipment must be

upgraded to comply with regulations. It is also worth noting that modern towing vessels are seldom, if ever, constructed specifically for dredge work, so even if a towing vessel or other marine equipment is purchased new, costly changes are required to make it useful to our work. Ninety percent of our equipment has been upgraded to Tier 2 – Tier 4 standards at a great cost to our company. In terms of production, we have enough equipment to be able to man 2-3 projects at a time without difficulty, but if a piece of equipment is out of service as it is being upgraded, it has an impact on our production for that season and possibly the next, which dramatically cuts into our profits and has a ripple effect as we try to recover from that loss.

It cannot be emphasized enough how competitive the heavy marine construction industry is in California. There are approximately 10-15 total companies at any given time that do most of the marine work along the California coast, and the companies range in size from small to very large businesses. Several, including R.E. Staite, qualify for small business preferences depending on the state or federal project designation. These small contract preferences even out the playing field to some extent, but only the largest companies can maintain reserve towing vessels in a fleet. Another concern for us is that companies from out of state (Oregon and Washington) are moving into California and our market, further increasing competition. While CARB requirements are typically referenced in contract requirements, these out of state companies are not tracked for compliance by CARB as the California companies are, and the upgraded engine requirements slip through the cracks. This puts us at an unfair disadvantage when it comes to CARB compliance.

RES has recently been evaluating the costs of installing a Tier 3 vs. a Tier 4 engine in our tug boats. The difference between a Tier 3 and a Tier 4 engine is significant, approximately a million dollars or more between the two tiers, and that is just the cost of the main engine, not including any auxiliary engines, or the cost of installation. The more affordable option for us at this time is a Tier 3 engine, but with the proposed change in regulations we could potentially have only 7 years between having to upgrade from the Tier 3 engine to a Tier 4 engine + DPF, which would an impossible cost to absorb in such a short amount of time. Absorbing the extra million to upgrade to a Tier 4 today is also a difficult expense. Only the largest companies can continually change out engines and gear without as much financial impact. The proposed CHC policy could potentially shorten the life span of an engine from 20 years to 7. In terms of budgeting and costs, it would be an impossible task for a company of our size and production rate to recover from. The safety of our crew is of utmost importance to R.E. Staite. We have been tracking some of the issues some manufacturers have been having with their Tier 4 equipment and have done our best to identify a manufacturer that has a safe track record. Allowing more time for a Tier 4 upgrade allows for safety issues to be worked out over time with the newer versions. The middle of the ocean is a dangerous place for a mishap, and anything our company can do to send our crews out with every safety advantage ahead of time is our goal. We have attached our quotes for both a Tier 3 and a Tier 4 engine, auxiliary engines and installation costs so that you have an understanding of the specific costs we are referencing.

Another factor that impacts our company when having to make an upgrade is the time that the equipment is out of commission for the installation. For a smaller company like ours, having a critical piece of equipment out of commission reduces the number of projects we can commit to in a season, which also impacts our ability to fund future upgrade projects. In some areas, particularly Northern California, we are only allowed to operate within environmental windows, which also reduces work opportunities. Although grant opportunities are available, depending on when the grant funding is allocated, it could eliminate a whole season of construction for our

company if the funding is released during a prime construction season. The DPFs are a concern for us as well, as we are not sure where we would physically place them. Our understanding is that there are currently no DPFs available at this time for a Tier 4 marine engine, so we do not have an estimate for that purchase or installation, which further hinders decision making and budgeting for future years.

Our company has the disadvantage of having just enough equipment to make us competitive with the larger companies, but we are too small to absorb all of the costs of upgrades that the larger companies are able to absorb due to volume of work they are able to perform. If there is a way to structure the proposed revisions for small business so that it is not such a financial burden, we are very interested. We have listed four specific areas below that could be implemented in the new policy to assist our company and others with compliance.

Time

If there is an opportunity to grant more time to make the upgrades, it would make compliance more feasible. A timeframe of 20 years would be more manageable, and if the deadline for compliance could be based on the size of the company's fleet, with the smaller fleets being allowed more time would be our preference. The way things stand right now, the cost of a Tier 3 upgrade is more do-able in order to meet today's compliance requirements, but if we have to turn around and repower again to a Tier 4 in seven years, we would probably not have the funding for it. If we were allowed to stretch the timeline, it would allow the marine engine industry time to make the technology more standard and make the whole upgrade potentially more affordable.

More Flexibility with Grant Requirements

We have had several instances where we have not been able to meet all the requirements of grant conditions for applications. We have been working on compliance with all of our equipment and have been paying/funding equipment for the last nine years. One of the conditions to the Carl Moyer grant program is being able to have the improvements done three years before the compliance date. For us, that date is December 31, 2022, so any improvements for that funding would have had to have been approved and made in 2019 when we were still working on other equipment. The ability to request a variance would be very helpful to us. In several instances we are close to meeting the criteria, but if we were able to explain the circumstances surrounding any anomalies we might be allowed to apply for additional grant funding to offset costs.

Grant "Stacking"

Only being able to apply for one grant at a time has not been an effective strategy for us. One recent example is we applied for VW Mitigation funds and our application is currently under review. This prohibited us from applying for Good Movement funding that opened up shortly after the VW application deadline. We have no idea how many applicants there are for the VW money or if we will be funded, but we have missed out on an opportunity to be competitive for another source of funding in the meantime. If we are not approved for VW, we have lost valuable time towards upgrades as our next opportunity will be Carl Moyer funding later this summer. We would prefer being able to apply for all grants and being able to add them together for the same piece of equipment. We realize that there is a small amount of money for a large pool of companies. If "stacking" grants were not a possibility, listing the grants applied for on the respective applications and then being allowed to choose which one would be more beneficial would be our preference. We would be open to other ideas to be able to maximize chances of receiving any grant money available. As it is now, we have very limited opportunities and it impacts our timeframe for compliance.

Funding Complete Projects

Funding a complete project, rather than a partial project as part of a grant application would be a great help. It is noted that in some grant opportunities, government projects are allowed to be fully funded, while private projects are only partially funded or have a dollar cap. We do not oppose that companies be required to contribute to their proposed projects, but allowing a larger percentage of a project to be funded would take some of the pressure off of coming up with a larger portion of the replacement costs privately.

As a company that relies on the ocean for its livelihood, we are respectful of the proposals and decisions being made to preserve and protect our environment. As a small, family owned business, which faces competitive challenges in all aspects of its operations, we would like the following changes to be made to the current proposal:

1. Additional time for upgrades
2. Flexibility in terms of grant application requirements
3. The ability to "grant stack" and combine potential funding opportunities
4. Greater funding percentages allowed for private projects in grant applications

If these changes are not made, it is likely small maritime businesses will not be able to fund the continual mandates required to upgrade equipment and will be forced out of the marine construction industry. If there is other information that would be helpful to you to further understand our situation, please let us know how we can help. My e-mail address is kathac@restaite.net.

Thank you for your consideration.

Sincerely,

R.E. STAITE ENGINEERING, INC.

Katha Carpenter
Vice President

Attachments:

Tier 4 Attachment
Tier 3 Attachment
Auxiliary Engine Attachment

Union of Concerned Scientists
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April 30, 2020

Tracy Haynes
California Air Resources Board
1001 "I" Street
Sacramento, CA

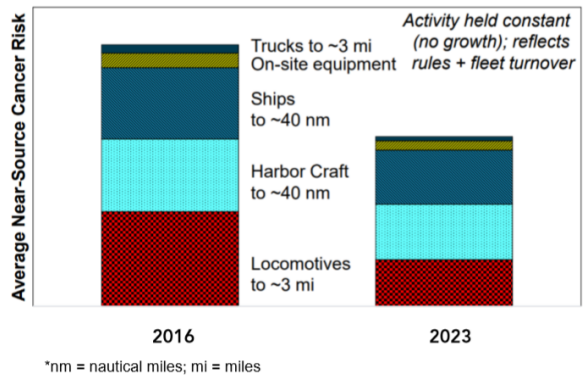
Re: Proposed Concepts for Commercial Harbor Craft

Dear Ms. Haynes:

I write to provide comments on the Proposed Concepts for the Commercial Harbor Craft Regulation. As the emissions inventory below illustrates,[1] commercial harbor craft are one of the most significant drivers of cancer risk at ports and the proposed regulation is critical to protecting public health. I offer four comments related to the proposal:

1. Support for the policy's inclusion of zero-emission vessel requirements
2. Support for the use of shore power to reduce idling emissions
3. Support for increased enforcement of commercial harbor craft emissions standards
4. Support for moving forward with this regulation as expeditiously as possible

Figure 1. Average Near-Source Cancer Risk from Port Mobile Sources in 2016 and 2023*



The current harbor craft regulation will achieve much of its benefits by 2022, and there will not likely be greater emissions reductions beyond those already achieved. Reducing emissions further is necessary to protect public health from these harmful air pollutants. Thank you for considering these recommendations.

Sincerely,

Jimmy O'Dea

Jimmy O'Dea, Ph.D.
Senior Vehicles Analyst
Union of Concerned Scientists
Oakland, California

[1] California Air Resources Board. 2020. "Proposed Concepts for Commercial Harbor Craft in California." Online at ww2.arb.ca.gov/sites/default/files/2020-03/chcwebinar03052020.pdf.

April 30, 2020

Tracy Haynes
California Air Resources Board
1001 “I” Street
Sacramento, CA

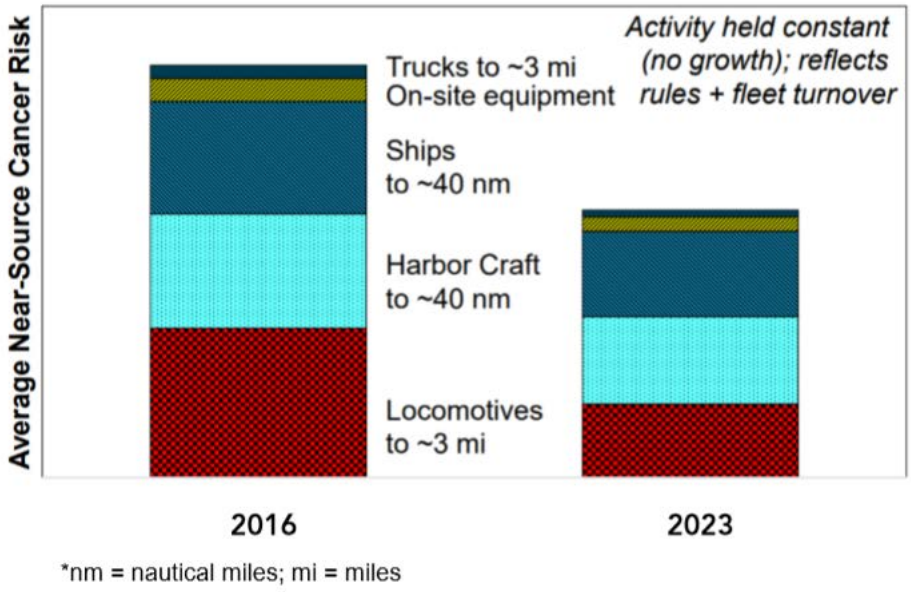
Re: Proposed Concepts for Commercial Harbor Craft in California

Dear Ms. Haynes:

On behalf of the undersigned organizations, we provide comments on the document called Proposed Concepts for the Commercial Harbor Craft Regulation (“Concept Document”). As the Staff Presentation and the Concept Document make clear, this proposed regulation is quite critical to protecting public health. We encourage swift work to adopt this regulatory proposal.

It is vital for the California Air Resources Board (CARB) to move forward with this regulation as expeditiously as possible. For the last three years, CARB staff have identified amendments to the commercial harbor craft regulation as a critical part of its strategy to address the harms from the freight industry. The following figure from the Concept Document outlines the great importance of addressing a sector of port emissions that is one of the most significant drivers of cancer risk at ports.

Figure 1. Average Near-Source Cancer Risk from Port Mobile Sources in 2016 and 2023*



*nm = nautical miles; mi = miles

Even with the existing harbor craft regulation in the books, this source category continues to contribute a large portion of health cancer risk to communities near ports. Moreover, given that the current harbor craft regulation will achieve much of its benefits by 2022, there will not likely be greater emissions reductions beyond those already achieved. Achieving more emissions reductions is necessary to protect public health and reduce harmful smog-forming emissions.

The comments in this letter follow the numerical ordering of issues in the Concept Document.

I. Expanding Vessel Categories Subject to Regulation

Commenters support the expansion of the commercial harbor craft regulation to the additional categories of all tank barges, food & supply barges, rocket launching vessels, ocean cable laying vessels, research vessels, work boats, and charter fishing vessels. Commenters suggest this regulation also be extended to cover diesel powered recreational vessels primarily for pleasure.

II. More Stringent In Use Requirements

Commenters support enhancing the stringency of in use requirements. Commenters are concerned about the low use exemption. In particular, Commenters suggest eliminating the low use exemption for operations impacting communities identified under AB 617 as priority communities to achieve emissions reductions, including "Year 1" communities and "Year 2" communities.

III. More Stringent Requirements for New Build Vessels

Commenters strongly support the enhanced new build requirements, especially the provisions requiring zero emission technologies. Commenters also suggest creating zero emission requirements for new tug and excursion vessels. These are prime targets for setting zero-emission requirements.

IV. Mandates for Zero-Emissions and Advanced Technologies

Commenters strongly support the proposal pushing deployments of zero-emissions technologies, technologies that lead to zero-emissions, and emission capture and treatment technologies. Advancing zero-emissions technologies is critical given the size, fuel use, and scope of emissions from this sector. This part of the regulation will also aid in California continuing to be a leader in advancing zero-emissions in the freight sector. The following chart identifies the current schedule, and commenters suggest the following amendments to the schedule in red in the fourth column.

Marine Technology Type	**Vessel Category Requirement**	**Mandate Phase In Date**	**Commenters Proposed Dates**
Enhanced Efficiency Diesel-Electric	New Tugs	January 1, 2025	Same
Zero-Emission Capable Hybrid	New Excursion Vessels	January 1, 2026	January 1, 2025
Zero-Emission	New and In-Use Short (<3 nm) run ferries	January 1, 2028	January 1, 2026

V. Removing Exemptions For Under 50 Horsepower.

Commenters support removing the exemption for engines lower than 50 horsepower. This is a critical loophole to close, which will address approximately 8% of commercial harbor craft auxiliary engine Particulate Matter emissions.

VI. Requiring Replacement Vessels for Certain Vessel Categories

Commenters are concerned about this proposal. A six year extension of compliance seems too long to allow a piece of equipment to continue to operate. Commenters do not understand

why such a long period of extension would be required and support a shorter compliance extension in this regulation.

VII. Compliance Extension

Commenters are concerned about the extension proposal. It is not clear why an operator would need more than a three year delay in compliance. Commenters suggest removing the second three year extension from the proposal. To the extent CARB feels like a second extension is needed given this sector, the extension should allow for only 1 additional year for compliance.

Commenters are also concerned about compliance extensions for fleets that have multiple engines needing replacements at the same time. More detail is needed about whether this provision has been used in the past, and if so, where these vessels were located and how long the extension lasted.

VIII. Alternative Compliance Pathways

Commenters appreciate the desire of the California Air Resources Board to spur the deployment of zero-emission and zero-emission capable commercial harbor craft by allowing extended compliance for other pieces of equipment in fleets pursuing these technologies. Commenters would need to understand better the emissions tradeoffs that could result from this approach. Generally, commenters agree that fleet operators should not be able to trade compliance obligations outside of the Air District where a piece of equipment is operating, but some of the compliance relaxations appear very long, including an extra year for compliance for enhanced efficiency. Importantly, Commenters do not support an approach that would give a fleet operator additional compliance time for another vessel when it is achieving simply the same emissions reductions as would otherwise be required under the law.

IX. Summary of Proposed Requirements By Vessel Type

Commenters appreciate the helpful table outlining the various requirements by vessel type. Commenters do not understand why work boats are allowed unlimited compliance deadline extensions. This is the equivalent of having no regulation at all. Moreover, Commenters continue to be concerned about the six year compliance deadline extension reflected in the table and suggest the shorter compliance extension period mentioned in Section VII of these comments.

X. Proposed Implementation Timeline

Commenters appreciate setting up the regulation to have the most polluting vessels trigger compliance requirements sooner. Aside from deadlines asked to move up in Section IV, Commenters generally support the proposed implementation schedule. The chart should make clear that the compliance years mean January 1 of that year, not December 31.

XI. Idling Limits and Shore Power Requirements

Since data shows approximately 40% of emissions from this sector are when harbor craft is idling, reducing these emissions is important. Commenters support adding idling limits and shore

power requirements. Commenters support shifting the 15 minute idling limit to 10 minutes given the large portion of emissions stemming from idling. Finally, the Concept Document identifies a lack of standardized charging infrastructure for harbor craft. Commenters encourage CARB to work with utilities and other funding agencies like the California Energy Commission to provide resources to create more standardization for commercial harbor craft charging infrastructure.

XII. Facility Infrastructure

Commenters support placing the onus of installing infrastructure on a clearly identified entity. Commenters are agnostic on the responsible parties as long as work to install infrastructure is done with good job standards. Commenters do request specificity on what entity is required to do what in order to ensure effective enforcement and oversight.

XIII. Reporting - Facilities

Commenters are concerned about the rampant lack of reporting mentioned in the Concept Document. Because of this, Commenters support additional reporting requirements for facilities to help capture the vessels currently not complying with the existing law and ensure future vessels comply with new requirements.

XIV. Reporting – Operators

Commenters support the enhanced reporting requirements for operators.

XV. Vessel Identifier

Commenters strongly support the proposed concept for vessel identifiers. Creating an easier way for the public to identify vessels will clearly benefit enhanced enforcement.

XVI. Opacity Testing

Commenters support CARB developing opacity limits and a reporting protocol for commercial harbor craft. While December 31, 2023 is far away to provide protections, we understand it will take time to get sufficient testing protocols implemented. Thus, we respectfully request this opacity deadline remain at no later than December 31, 2023. Moreover, we suggest that CARB create annual opacity testing obligations for this category of equipment.

XVII. Applicability and Exemptions

Commenters support including diesel powered vessels primarily used for recreation in this regulation.

XVIII. Compliance Fees

Commenters support assessing compliance fees. Enforcement of regulations addressing harbor craft is clearly critical given the large portion of risk posed to port adjacent communities. Compliance fees will allow CARB to more effectively enforce this critical regulation.

Commenters have no comments on the fee design, but simply request the fees provide sufficient revenue to ensure compliance with the regulation.

We appreciate your consideration of these comments, and we look forward to working with the agency to adopt this life saving regulation as soon as possible.

Sincerely,

Adriano L. Martinez
Earthjustice

Andrea Vidaurre
Center for Community Action & Environmental Justice

Jesse Marquez
Coalition for a Safe Environment

Bill Magavern
Coalition for Clean Air

Luis Olmeda
Comite Civico del Valle, Inc.

Taylor Thomas
East Yard Communities for Environmental Justice

Abhilasha Bhola
Jobs to Move America

Sylvia Betancourt
Long Beach Alliance for Children with Asthma

Heather Kryczka
Natural Resources Defense Council

Joel Ervice
Regional Asthma Management and Prevention (RAMP)

Peter M. Warren
San Pedro & Peninsula Homeowners Coalition

Carlo De La Cruz
Sierra Club

Rev. Earl W. Koteen
Sunflower Alliance

Jessica Tovar
Urban & Environmental Policy Institute at Occidental College

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California State Senate

SENATOR
JIM BEALL
FIFTEENTH SENATE DISTRICT

COMMITTEES
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& FINANCE
HUMAN SERVICES

SUBCOMMITTEE
BUDGET & FISCAL REVIEW
SUBCOMMITTEE #5
ON CORRECTIONS,
PUBLIC SAFETY,
& THE JUDICIARY

April 30, 2020

Mary Nichols, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Pause All Rulemaking Impacting Harbor Craft Transportation Until January 2021

Dear Chair Nichols,

The COVID-19 emergency has put significant strain on state agencies, local agencies, and stakeholders to address the immediate economic, health, and mobility needs of all Californians. Given the unprecedented nature of the crisis, I am requesting that the California Air Resources Board (CARB) put a temporary hold on the rulemaking process for the proposed commercial harbor craft regulation until January 1, 2021.

The proposed regulation seeks to reduce in-use emissions from a variety of vessel types, including ferries operated by public transit agencies. In my years in the Legislature, I have been resolute about the vital role these agencies play in reducing greenhouse gas emissions and I have fought, most recently through Senate Bill 1, to ensure that these agencies have the resources they need to serve as a viable alternative to single-occupancy vehicles. Unfortunately, the current crisis has resulted in significant ridership losses in excess of 80 percent at transit agencies statewide, including those that operate ferries, that have undercut their collection of fare revenues. What's more, transit agencies are expecting to soon face hundreds of millions of dollars in lost sales tax revenues, which may threaten their ability to provide even base levels of service. As transit agencies grapple with these existential crises, I believe it is appropriate for the state to temporarily lessen, to the extent it can, the administrative and regulatory processes they are required to respond to. Such action by the state would allow transit agencies to focus on their core function of moving Californians, including essential workers, safely while they try to regain their financial and operational footing. I fully expect that, once the pandemic subsides and transit agencies can again direct their staffing and financial resources to meaningfully engaging in this regulatory process, they will.

As always, I commend you and your staff for your efforts to protect the long-term health of our state and fight the negative impacts of climate change. I hope you will recognize that these unprecedented times may require unprecedented flexibility from the state as we pursue our shared goals. It is, therefore, imperative that we provide transit agencies the time to fully participate in the rulemaking process for the proposed commercial harbor craft regulation.

Sincerely,

Jim Beall

Senator Jim Beall
Chairman, Senate Transportation Committee

Quiros, David@ARB

From: Art Taylor <art.taylor1@cox.net>
Sent: Monday, May 04, 2020 12:05
To: Quiros, David@ARB
Subject: Proposed new regulations

Dear Mr Quito's
My name is Art Taylor. I currently own and operate a sportfishing boat in San Diego. Our boat currently has tier 1 motors 3406E computerized 475HP each.
We operate in Mexican waters for 90% of our trips, we travel for 15 miles from San Diego harbor south to the Mexican border at the beginning of our trip and then the same at the end of our trip.
These new regulations would make it difficult for us to comply based on the total cost of new engines and installation. We wouldn't be able as small business owners to absorb these costs.
We would hope the ARB would reconsider implementing these regulations for vessel of our class.
Sincerely
Art Taylor

Sent from my iPhone