

Comment Log Display

Here is the comment you selected to display.

Comment 16 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name Graham

Last Name Balch

Email Address graham@greenyachtsales.com

Affiliation Green Yachts

Subject Proposed CHC Short-Run Ferry Definition

Comment

Please see the attached suggestion on how the short-run ferry definition should be changed and why it should be changed.

Attachment www.arb.ca.gov/lists/com-attach/3712-chc2021-BmFRNI0xV20BaQVi.docx

Original File Name Gaming the Proposed ZEAT CHC regulations.docx

Date and Time 2022-03-24 08:09:19

Comment Was Submitted

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

Board Comments Home

Gaming the Proposed CHC regulation definition of Short-Run Ferry

Overview:

The proposed CHC regulations are visionary as they are the first regulations by any US regulatory agency to require ZEAT (Zero-Emission Advanced Technology) in marine vessels. This is a pioneering step forward in addressing climate change in the marine sector.

It also is the first attempt by the California Air Resources Board (CARB) to bifurcate regulations based on distance traveled as it applies ZEAT requirements to ferries that operate less than three nautical miles and not those who travel more than three nautical miles. In defining this bifurcation, CARB has unintentionally created regulations that will cause longer-run diesel routes, more diesel fuel consumption and more climate change as well as unfair competition for those abiding by the rules. This is because operators have figured out a few simple and pollution increasing ways to game and thus avoid the short-run ZEAT requirements. In order for ZEAT regulation to be effective, these two unintended consequences need to be fixed so that the ZEAT regulations create a level playing field and reduced GHG (greenhouse gas) emissions. This can easily be done by changing the proposed CHC definition of a short-run ferry before the proposed CHC regulations are adopted.

Language:

The language from the proposed CHC regulations are the definition of Short-Run ferry and the regulations that pertain to short-run ferries – both of which are copied below from the latest proposed CHC draft regulations. The bolded and italicized language creates loopholes that essentially any vessel operator could use in the Bay Area to avoid operating a ZEAT vessel on short-run routes.

“Short-Run Ferry” means a vessel dedicated to provide regularly scheduled round-trip ferry service between two points that are less than 3 nautical miles apart. ***Vessels that make multiple stops in a single round-trip, where half or more of the single trip lengths are less than 3 nautical miles, and the longest single trip length is less than 6 nautical miles, are considered short-run ferries. Vessels that provide ferry round-trip service between two points that are less than 3 nautical miles apart, but account for less than 20 percent of the service trips from one fleet or operator between those two points during a given calendar year, are not considered short-run ferries.***

Section 10: Requirements for Zero-Emission and Advanced Technologies (ZEAT) for New, Newly Acquired and In-Use Short-Run Ferries, and New and Newly Acquired Excursion Vessels (Applicable On and After January 1, 2023).

- A. Any person who sells, purchases, offers for sale, leases, rents, imports, or otherwise acquires the following that operates or is intended to operate in Regulated California Waters must comply with the applicable ZEAT requirements shown in Table 14 for new excursion vessels, newly acquired excursion vessels, new short-run ferries, newly acquired short-run ferries, or in-use short-run ferries operated above the annual hour limits for low-use exceptions as set forth in subsection (e)(14).

Table 14: Compliance Dates for Zero-Emission and Advanced Technologies

Zero-Emission	New, Newly Acquired and In-Use Short-Run Ferries	December 31, 2025
---------------	--------------------------------------------------	-------------------

Impact:

This short-run ferry definition would result in two negative consequences:

1. More diesel fuel is burned as a result of how these regulations are written rather than less. One operator has informed its board that to serve a short-run route covered by these regulations, it will burn 187,000 more gallons of diesel fuel a year by adding legged routes to avoid the short-run ferry definition. From that one operator alone, 2094 tons of CO₂ emissions per year will be increased in the Bay Area in anticipation of avoiding the short-run ferry definition not to mention the increase in NO_x and other pollutants.
 - a. For example, the distance between Tiburon and Angel Island State Park is 1.1 nautical miles thereby making it a route subject to the short-run ferry definition. However, if a vessel goes from San Francisco to Tiburon (7 miles) and then Tiburon to Angel Island State Park (1.1 miles), then from Angel Island State Park to Tiburon (1.1 miles, Tiburon to San Francisco (7 miles), a route that has been set up by a ferry operator specifically to avoid the short-run ferry definition as written in two ways:
 - i. One or more legs are greater than 6 nautical miles
 - ii. Less than half the legs are less than 3 nautical miles – this one is met because one of the five scheduled services a day stops in Sausalito intentionally to avoid the short-run ferry definition in advance of the proposed regulations being adopted thereby making it 52.3% of the each weekday’s routes being greater than 3 nautical miles and 51.7% of routes for the entire week as on the weekend there are no stops in Sausalito and this makes this legging strategy mean this ferry service does not have “half or more of the single trip lengths are less than 3 nautical miles”:
 1. https://www.goldengate.org/assets/1/6/angel_island_ferry_schedule4.pdf
2. Diesel boats that do not have to pay for the cost of electric conversions will underprice and put out of business electric vessels. In our opinion, if all vessels are required to be electric and one outcompetes the other, that is business and fair’s fair. But what is not appropriate

is in gaming and thus avoiding the ZEAT regulations, one operator is able to remain diesel and underprice an operator that converts to electric who builds the conversion cost not covered by Moyer and other funding into ticket prices.

The net impact of these two concerns is that as written, the proposed CHC regulations have the potential to significantly increase pollution in the Bay Area rather than reduce it, incent vessel operators to game the regulations rather than follow them, and put operators that do follow the proposed CHC regulations and invest in ZEAT technology at risk of being outcompeted by those gaming the regulations.

Key: Struck through language below should be removed from the short-run ferry definition and bolded language should be added

Solution:

“Short-Run Ferry” means a vessel dedicated to provide regularly scheduled round-trip ferry service between two points that are less than 3 nautical miles apart. Vessels that make multiple stops in a single round-trip, where ~~33% half~~ or more of the single trip lengths are less than 3 nautical miles, and the **average** single trip length is less than ~~5~~ **6** nautical miles, **must submit an application to the local AQMD that is approved in order to not be** ~~are~~ considered short-run ferries. Vessels that provide ferry round-trip service between two points that are less than 3 nautical miles apart, but account for less than 20 percent of the service trips from one fleet or operator between those two points during a given calendar year, **must submit an application to the local AQMD that is approved in order to not be** ~~are not~~ considered short-run ferries.

Rationale:

With the wording additions and subtractions above, three things are achieved.

1. An operator would have to leg an unfeasible number of longer trips to game the regulations
2. An operator could not add one long leg to game the regulations due to changing it from single trip to average. To make this change from single to average neutral in difficulty of implementation, there is a suggested reduction in distance from 6 to 5 nautical mile
3. Rather than any exemption to the short-run ferry definition being automatic or up to the interpretation of the vessel operator, the local AQMD has to approve the exemption. Without this change, it is not specified as to how an exemption is determined. Giving the local AQMD the ability to grant an exemption if there is a logical reason for it or to prevent an exemption from being granted if the AQMD believes the effort is designed to circumvent the regulations and/or alternatives exist that make the requested exemption unnecessary helps ensure the regulations are properly interpreted. Our hope is that the AQMD would receive with each application an evaluation of the amount of diesel fuel burned to run the proposed routes as an exemption to the short-run ferry ZEAT requirements and that the AQMD would evaluate service need vs emissions using this information. Also, if an applicant has to get the exemption from the AQMD,

it gives the AQMD the opportunity to talk with the applicant about funding for a ZEAT conversion and reduced emissions instead of seeking an exemption to run longer routes.

Comment Log Display

Here is the comment you selected to display.

Comment 18 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name Leah

Last Name Harnish

Email lharnish@americanwaterways.com

Address

Affiliation The American Waterways Operators

Subject American Waterways Operators Comments on the Proposed Commercial Har
Craft Rule Comment

Comment

To Whom it May
Concern,

My
name is Leah Harnish and on behalf of the American Waterways
Operators and all staff and members presenting at the March 2
2022 hearing on the proposed amendments to the Commercial Har
Craft rule, I would like to submit the attached comments for
consideration. If for some reason the document does not open,
please contact me directly and I will send them in another
form.

Thank you for your consideration,

Leah

Attachment www.arb.ca.gov/lists/com-attach/3714-chc2021-UWEFMFZ6VTRSYPN+.pdf

**Original
File Name** 03-24-2022 AWO Comments on CARB CHC_FINAL.pdf

Date and Time	2022-03-24 08:16:57
Comment Was Submitted	

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)



999 N. Northlake Way
Suite 223
Seattle, WA 98103

Peter J. Schrappen, CAE
Vice President – Pacific Region

PHONE: 206.406.3922
EMAIL: pschrappen@americanwaterways.com

March 24, 2022

Chair Liane Randolph
c/o Harbor Craft California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Re: Proposed Regulations
for Commercial Harbor
Craft

Dear Chair Randolph:

On behalf of The American Waterways Operators (AWO), thank you for the opportunity to provide comments on the California Air Resources Board (CARB) proposed amendments to the Commercial Harbor Craft (CHC) regulation.

AWO is the tugboat, towboat, and barge industry's advocate, resource, and united voice for safe, sustainable, and efficient transportation on America's waterways, oceans, and coasts. Our more than 300 member companies own and operate 6,200 towing vessels and 33,000 barges and transit 25,000 miles of inland and intracoastal waterways, the Great Lakes, and the Atlantic, Pacific and Gulf coasts and support green jobs that pay a living wage and provide long-term career opportunities for more than 300,000 Americans. Tugboats, towboats, and barges are also the greenest mode of freight transportation with one barge producing 30 percent less greenhouse gas emissions than rail and more than 1000 percent less than trucks. This is particularly significant in California which ranks third among states in waterborne commerce by tonnage and fourth in economic impact, with more than \$12.2 billion in annual economic activity driven by the domestic maritime transportation industry.

At a time when California ports are experiencing historic congestion and supply-chain failures are impacting every American, the California Air Relations Board (CARB) is proposing to take regulatory action that stands to decimate maritime commerce. This new rule will force tugboat companies to retire safe and efficient harbor craft and all together consider to cease doing business in the state. AWO and its members and partners have met with CARB staff for the previous three years on the proposed Commercial Harbor Craft (CHC) rule. Unfortunately, none of the substantive recommendations and requests that industry made during that time are reflected in this final draft rule. **AWO urges CARB to not proceed with this rulemaking in**

its current form, but instead to build on the success of the collaborative approach that has yielded significant improvements in engine technology and emissions performance over the last decade. CARB has a long history of creating incentives and working collaboratively. Specifically, we ask CARB to:

- Change the compliance schedule for engine phase-outs depending on the manufacturing date and when the U.S. Coast Guard certifies Diesel Particulate Filters (DPFs) as safe to use.
- Amend the deadline for complying with DPF installation to no sooner than six years from the date of full approval by the U.S. Coast Guard (USCG), American Bureau of Shipping (ABS), and the engine manufacturer.
- Fully exempt all oceangoing tugs and barges and articulated tug and barges (ATBs) participating in interstate commerce and international transport from the CHC rule.
- Work with the California legislature to correct existing funding sources for CHC regulation compliance and increase supplemental state funding to provide financial assistance to companies to repower or purchase replacement vessels.
- Re-evaluate the inventory of commercial harbor craft vessels in California regulated waters and update the associated emissions and health risks based on this accurate data.
- Focus on updating vessels with Tier 2 engines and allow vessels with Tier 3 or Tier 4 engines to continue to operate for their entire useful life with the requirement that the vessel be fully retrofitted as a zero-emissions vessel.

The existing compliance schedules cannot be met while also maintaining the integrity of the vessel and the safety of the mariners

3377.1

Infeasible Compliance Schedule

The tug, tow, and barge industry is committed to reaching zero emissions in the safest and most efficient manner. However, the timeline proposed in the new CHC rule gives companies less than four years to repower all their vessels and less than 6 years to modify Tier 4 engines with DPFs.

This framework is neither financially feasible, operationally achievable nor responsible, as it jeopardizes the safety of mariners and the viability of businesses. When the alternative is decommissioning a vessel, companies will rush changes to critical components without taking the necessary time to ensure these retrofits are completed in a safe and responsible manner. The USCG, ABS, and every major vessel class society recognizes, and requires operators to properly study and apply for any changes to major components or essential pieces of machinery. This study includes performing a proper engineering assessment of the change, and involves a:

- load analysis,
- stability study,
- propeller load in both static and dynamic conditions,
- failure mode and effects analysis (FMEA), and

- thorough engineering review of the results.

This process takes more than a year to complete, and cannot begin until each component, and all its specifications, are provided. Once this is complete, it can take months and even years to source an engine and compatible auxiliary equipment. In addition to procuring materials, a shipyard facility and replacement vessel must be located. Tier-4-plus-DPF repowers will require major structural changes and an increase in power generation capacity, significantly increasing the scope of engineering requirements over typical retrofits.

3377.1
(cont.)

While there is a one-year extension in the proposed rule, the realities of vessel operations require a window that allows for all the steps above. The compliance schedule must be modified to allow for adequate time to transition vessels. AWO recommends a four-to-nine-year-phase-out period.

<u>Compliance Dates for Tier 2, Tier 3, or Tier 4 Engines on Ferries (Except Short-Run Ferries), Pilot Vessels, All Tug/Towboats, and Push Boats</u>			
Year of Engine	AWO Proposed Compliance Deadlines (Approved DPF)	AWO Proposed Compliance Deadlines (No Approved DPF)	CARB Proposed Compliance Deadlines
2009 and Earlier	12/31/2028	12/31/2034	12/31/2024
2012 and Earlier (Pilot Vessels)	12/31/2030	12/31/2036	12/31/2025
2010-2012*	12/31/2030	12/31/2036	12/31/2025
2013-2015**	12/31/2032	12/31/2038	12/31/2026
2016-2019**	12/31/2034	12/31/2040	12/31/2027
2020-2021**	12/31/2036	12/31/2042	12/31/2028
2022 and Later**	12/31/2038	12/31/2044	12/31/2029

*Ferries (Except Short-Run Ferries), All Tug/Towboats, and Push Boats.

**All vessels listed in the title of this table, including ferries (except short run), pilot, all tug/towboats, and push boats.

<u>Compliance Dates for Tier 2, Tier 3, or Tier 4 Engines on Barges, Dredges, Crew and Supply Vessels, and Workboats</u>			
Year of Engine	AWO Proposed Compliance Deadlines (Approved DPF)	AWO Proposed Compliance Deadlines (No Approved DPF)	CARB Proposed Compliance Deadlines
2009 and Earlier	12/31/2036	12/31/2042	12/31/2026
2010-2013	12/31/2038	12/31/2044	12/31/2027
2014-2017	12/31/2040	12/31/2046	12/31/2028
2018 and Later	12/31/2042	12/31/2048	12/31/2029

DPF Compliance Requirements

CARB’s proposed rule that requires Tier 4 engines with DPFs on existing vessels is not feasible. Currently, there is little to no DPF technology that can be used for marine applications nor is there a DPF-certified by the USCG or ABS. Additionally, operators cannot begin to determine the utility of DPFs on their vessels because there is no manufacture-approved DPFs available for marine engines.

3377.2

Even if DPFs for towboats or barge existed, innumerable challenges remain. For example, estimated specs would preclude DPF installation in many of these types of vessels because of limited size and engine space. Also, back pressure created by the DPF could damage the engines, and the heat generated by the DPF may make vessels unsafe to operate. Even once approved, this type of installation will not be plug-and-play. Rather, it will require extensive engineering studies to determine if and how they can safely integrate into vessels. Before any work can start, an engineering study must determine its safe installation for the specific make and model of the engine. This study will need to evaluate the exhaust system in use, the available space in the exhaust trunk and stack, and the stability concerns of the vessel. After this comprehensive study, the impact of the DPF on the performance of the engine will need to be measured to determine if it creates unsafe operating conditions. There is not enough time to perform the studies necessary as well as all the other work that needs to be completed to repower an engine. It is unreasonable to require the implementation of unapproved and untested technology.

3377.2
(cont)

The proposed rule includes a two-year extension if no certified engines or DPFs are available by the date of compliance¹. However, it limits the renewal of the extension to only an additional two years. At the current rate of development, it is unlikely that this technology will be certified by that time. AWO requests an amended deadline for complying with DPF installation to no sooner than six years from the date of full approval by the USCG, ABS, and the engine manufacturer. We ask that this determination would be made at least one year before the compliance deadline for the vessel year and type.

Significant Operational Impacts and Compliance Costs

Arbitrary and Capricious Vessel Exemptions

CARB's decision to exempt about 1,570 commercial fishing vessels (approximately 40 percent of the total CHC population) from the rule while not similarly exempting other vessels that meet the same criteria is arbitrary and capricious. This decision unfairly places 100% of the emission reduction burden of the CHC rule on 60 percent of the vessel population. CARB's rationale for excluding these commercial fishing vessels applies equally to towing vessels that operate in coastal and international trade. Specifically:

3377.3

- Small profit margins,
- Demonstrated lack of feasibility for Tier 4 repowers and retrofits,
- Competition with out-of-state and global markets; and,
- Tendency to conduct most of their operations far from the coast.

Oceangoing tugs and barges, either towed on a wire or rigidly connected through an articulated tug barge (ATB) system, are directly analogous in their operation to commercial fishing vessels and share all four criteria that led CARB to exempt those vessels. AWO submitted information in April 2020 showing that "repowering with EPA Tier 4 engines could be significant and cost prohibitive for some ship assist and escort tugs." Similar technical challenges exist for oceangoing tugs, barges, and ATBs. These vessels commonly operate in interstate commerce in competition with self-propelled vessels in out-of-state and global markets. Additionally, the tugboats and barges operating in these markets are required by law

¹ Exception E2

to be U.S.-flagged, U.S.- owned, U.S.-crewed, and U.S.-built. This rule would place U.S.-flagged towing vessels at a competitive disadvantage against self-propelled foreign-flagged vessels that are not covered by CARB’s rule. Finally, AIS and Marine Exchange data reveals that these vessels conduct most of their operations far from the California coast, giving them a similar air emission profile in California as the exempted commercial fishing vessels.

3377.3
(cont)

CARB should extend the exemption for commercial fishing vessels to oceangoing tugboats and barges to avoid arbitrary and capricious distinctions between similarly situated classes of vessels.

Inappropriate regulating statute

The proposed rule fails to address the unique nature of articulated tug and barge (ATB) systems. The operational profile of ATBs is equivalent to that of a self-propelled oceangoing tank vessel in its function. Under CARB’s current rules, all self-propelled bulk tank vessels calling at port in California – whether foreign or U.S. flagged – are subject to the At Berth Regulation. It is neither fair nor rational that ATBs face significantly different emissions control requirements, despite performing the same function as other similar vessels. The CARB Board recognized this at their August 27, 2020 meeting by passing Resolution 20-22² which specifically directed staff to engage with industry to determine the best options for cost-effective-emissions-reduction regulations.

3377.4

In the mind of AWO, this means removing ATBs from the CHC rule and regulating them under the existing At Berth Regulation.

Compliance Cost

CARB has relied on the California Maritime Academy’s (CMA) report “Evaluation of the Feasibility and Costs of Installing Tier 4 Engines and Retrofit Exhaust Aftertreatment on In-Use Commercial Harbor Craft” to determine feasibility of Tier 4 retrofits, including DPFs. In their analysis, the cost to do this work was \$2.81 million. Upon review of the report by an independent engineering firm³, it was discovered that, because of its narrow scope, the CMA report vastly underestimated this cost. In reality, it costs \$3.7-\$4.5 million to repower a single vessel and it would cost \$16-\$24 million to purchase a new tug – something that an operator would be required to do if they could not comply. This significant investment would devastate smaller companies, who recently spent money to retrofit their vessels to meet the current CHC standards – an investment that was made with the expectation that the vessel would be used for its full useful life of 20-25 years before normal repowering.

3377.5

We acknowledge that there are multiple opportunities to apply for government funding to help manage these unexpected costs, however, there are not enough grant dollars enough to assist with mitigating the cost of compliance for the entire tugboat, towboat, and barge industry in California. Also, these grants are extremely competitive and do not fund maritime projects like our industry. There is no way for the maritime industry to comply with this unfunded mandate without help. We urge the Board to provide a stipulation that some guaranteed financial assistance will be provided if this rule goes through.

² APPENDIX I

³ APPENDIX II

A more holistic, zero emissions approach is needed

Accurate Vessel Inventory

3377.6

Under existing harbor craft regulations, towing vessel operators are required to report to CARB the number of vessels they operate in California waters. Rather than relying on this reporting to determine the size of the towing vessel population, CARB used a USCG database that provides information on vessel ownership and regulatory status, but not area of operation. This is an inaccurate representation of the number of vessels operating in California regulated waters because a vessel can be registered at a California port where a company is headquartered, but not necessarily transits consistently through California waters.

Throughout its three years of engagement, AWO has repeatedly pointed out that the U.S. Coast Guard database CARB used to create its vessel inventory is designed to track ownership of a vessel and not where it operates. Despite this important clarification, CARB continues to use homeport information which overestimates towing vessel operation in California waters. This mistake has led the agency to overestimate the number of unreported vessels, the population of towing vessels operating in California, and their cumulative impact on air quality.

In order to demonstrate these inaccuracies, AWO contracted with Ramboll⁴, a third-party engineering consulting firm, to conduct an independent assessment of the number of towing vessels operating in California and the likely impact of emissions from those vessels. Using Automatic Identification System (AIS) data for 2019⁵, Ramboll tracked the movement of every towing vessel operating within California waters during that year. The AIS data affirms that CARB has significantly overcounted the size of California's towing vessel fleet. Ramboll found that only 200 towing vessels operated within 100 nautical miles of the California coast, nearly 30 vessels fewer than CARB estimated to be working in California. The CARB model also assumes that non-reporting vessels operated the same number of hours as reporting vessels. Using the AIS data, Ramboll was able to determine the number of hours the towing vessels operating in California waters were moving, which is more a reliable predictor of total engine hours and therefore engine emissions. AWO was later informed by CARB that data provided by staff was improperly labeled. Therefore, this audit is inaccurate in our view.

Despite this, AWO stands by its past comments stating that it is inappropriate to use the U.S. Coast Guard database to identify vessels operating in California and that emissions from vessels that have not reported their hours are only a fraction of the scaling factor CARB has used in their emission analysis.

This new rule is based on an inaccurate vessel inventory and overinflated emissions numbers. We need to pass a rule that is based on an accurate reflection of the industry and its impact on California.

⁴ Appendix III

⁵ AWO chose 2019 for two reasons: first, it was the last year not affected by the impacts of COVID on vessel operations, and second, CARB provided vessel reporting status for that year, which allowed us to measure the difference between reported vessels and non-reported vessel hours.

Zero Emissions

AWO members are committed to reducing their vessel emissions and lessening their impact on the environment. The tugboat, towboat, and barge industry is already the greenest mode of freight transportation in the country and individual companies are already taking steps to introduce hybrid and zero emissions. CARB's proposed rule states that their end goal is to have all vessels operating in California waters to have zero emissions, but their incremental approach to this goal undercuts the industry's ability to do this by forcing operators to repower, retire, or purchase a new vessel every year. Harbor craft operators typically expect a newly built vessel to have a useful life of 20-25 years and investment decisions are made with the assumption that they can be recouped over this period. The proposed regulations would dramatically alter this calculus, forcing vessels from service after as little as 10 years. Not only is it extremely difficult, and economically untenable in many cases, for an operator to do this, the net environmental impact of forcing the premature retirement of serviceable vessels and replacing them with new builds (even if the newbuild has a lower emissions profile) must be considered as the procurement of materials and disposal of old vessels has an indirect, yet still noteworthy, emissions profile.

3377.7

The most financially feasible and technologically efficient way for industry to help CARB reach their zero emissions goal within their long-term timeline is to allow a tug, tow, or barge to function for its useful life and then be replaced with a zero-emissions vessel. Tier 1 and Tier 2 engines should be brought up to a higher standard, but new Tier 3 and Tier 4 engines are operating at the most efficient technology available and should be able to run throughout their useful life. Best available technology is already in use here, so we request that CARB add an exemption to the rule that allows vessels currently with Tier 3 and Tier 4 engines to operate for the rest of their useful life with the stipulation that they will become fully retrofitted as a zero emissions vessel when that useful life is up. Moving forward, we remain committed to zero emissions. We are confident that we can get there, but regulations based on unfeasible technology is not the correct route.

Conclusion

AWO and its membership are committed to helping California reach their zero emissions goal and looks forward to playing a part in helping the state's maritime industry be a leader in this. However, this rule will not get us there. Please vote no and allow us to continue to engage with CARB staff and amend the rule to create one that works for industry, the Board, and the state as a whole.

Sincerely,



Peter Schrappen
AWO Vice President – Pacific Region

APPENDIX I

Resolution 20-22

August 27, 2020

Identification of Attachments to the Board Resolution

Attachment A: CEQA Findings and Statement of Overriding Considerations

State of California
AIR RESOURCES BOARD

CONTROL MEASURE FOR OCEAN-GOING VESSELS AT BERTH

Resolution 20-22

August 27, 2020

Agenda Item No.: 20-08-1

WHEREAS, sections 39600 and 39601 of the Health and Safety Code direct the California Air Resources Board (CARB or Board) to adopt standards, rules, and regulations and to do such acts as may be necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, sections 39658, 39659 and 39666 of the Health and Safety Code authorize the Board to establish airborne toxic control measures (ATCM) for substances identified as toxic air contaminants;

WHEREAS, section 43013 of the Health and Safety Code authorizes the Board to adopt standards and regulations to control criteria pollutants for off-road or nonvehicle engine categories, including marine vessels to the extent permitted by federal law; and to act as expeditiously as is feasible to reduce nitrogen oxide emissions from marine vessels;

WHEREAS, section 41511 of the Health and Safety Code gives CARB the authority to adopt rules and regulations in carrying out its duties that require the owner or the operator of any air pollution emission source to take such action as it may determine to be reasonable for the determination of the amount of such emission from such source;

WHEREAS, section 38560 of the Health and Safety Code directs CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas (GHG) emissions reductions from sources or categories of sources;

WHEREAS, section 38562 of the Health and Safety Code requires CARB to adopt GHG emissions limits and emissions reduction measures by regulation to achieve the maximum technologically feasible and cost-effective reductions in GHG emissions in furtherance of achieving the statewide GHG emissions limit;

WHEREAS, section 39730.5 of the Health and Safety Code requires CARB to begin implementing the comprehensive short-lived climate pollutant strategy to reduce statewide anthropogenic black carbon emissions by 50 percent below 2013 levels by 2030;

WHEREAS, the 2016 Sustainable Freight Action Plan identified strengthening the Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in a California Port (2007 At-Berth ATCM), as a State agency action to advance the objectives of Executive Order B-32-15;

WHEREAS, the 2016 State Strategy for the State Implementation Plan (SIP Strategy) included a CARB measure to strengthen the emission controls from vessels at berth by including additional vessel fleets, types, and operations to achieve emission reductions needed for attainment;

WHEREAS, the October 2018 Community Air Protection Blueprint identifies amendments to the At Berth regulation as a near term action to reduce emissions and exposure in disproportionately burdened communities throughout the State.

WHEREAS, ports provide direct and substantial contributions to California commerce;

WHEREAS, during the March 23, 2017, Board Meeting, the Board adopted Resolutions 17-7 and 17-8 (and addenda thereto), adopting the 2016 State Strategy for the SIP, and the 2016 Air Quality Management Plan for Ozone and PM2.5 in the South Coast Air Basin and the Coachella Valley, respectively;

WHEREAS, the addenda to Board Resolutions 17-7 and 17-8 direct CARB staff to develop a regulation that would strengthen the 2007 At-Berth ATCM and provide further emission reductions to increase public health benefits;

WHEREAS, staff has proposed the Control Measure for Ocean-Going Vessels At Berth (Regulation), as set forth in Appendix A to the Initial Statement of Reasons (ISOR) released to the public on October 15, 2019;

WHEREAS, the Regulation would reduce emissions in communities heavily burdened by cumulative air pollution impacts, as required by Assembly Bill 617 (Stats. 2017, Ch. 136);

WHEREAS, the Regulation is designed to achieve added public health and air quality benefits that result from emissions reductions of oxides of nitrogen (NOx), particulate matter 2.5 (PM2.5), reactive organic gas (ROG), GHG emissions, black carbon, diesel particulate matter (DPM) and other toxic air contaminants, beyond those realized by the 2007 At-Berth ATCM;

WHEREAS, CARB's regulatory program that involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans has been certified by the

Secretary for Natural Resources under Public Resources Code section 21080.5 of the California Environmental Quality Act (CEQA; California Code of Regulations, title 14, section 15251(d)), and CARB conducts its CEQA review according to this certified program (California Code of Regulations, title 17, sections 60000-60007);

WHEREAS, CARB prepared a draft Environmental Analysis (Draft EA) under its certified regulatory program for the Regulation and circulated it as Appendix D of the ISOR for public comment for at least 45 days from October 15, 2019, through December 9, 2019;

WHEREAS, the Draft EA concluded that implementation of the Regulation has the potential to result in: less than significant impacts, or no impacts, to energy demand, land use, air quality, GHGs, population, employment and housing, public services, and recreation; and potentially significant impacts to aesthetics, agriculture and forest resources, air quality (construction-related emissions), biological resources, cultural resources and tribal resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, noise and vibration, transportation and traffic, and utilities and service systems. The potentially significant and unavoidable adverse impacts are primarily related to short-term, construction-related activities.

WHEREAS, on December 5, 2019, the Board conducted a public hearing on the proposed Control Measure for Ocean-Going Vessels At Berth and the Draft EA prepared for the proposal;

WHEREAS, following the public hearing, the Board adopted Resolution 19-28 directing the Executive Officer to consider any additional conforming modifications that are appropriate, and make them available for public comment, with any additional supporting documents and information, for a period of at least 15 days. The Executive Officer was further directed to consider written comments submitted during the public review period and make any additional appropriate conforming modifications available for public comment for at least 15 days, explore innovative concepts where equivalent or greater community benefits would be achieved, evaluate all comments received during the public comment periods, including comments on the Draft EA, and prepare written responses to EA comments as required by CARB's certified regulations at California Code of Regulations, title 17, sections 60000-60007 and Government Code section 11346.9(a). The Executive Officer was directed to present to the Board, at a subsequently scheduled public hearing, staff's written responses to any comments on the Draft EA, along with the Final EA, for consideration for certification, and the finalized regulation for consideration for adoption;

WHEREAS, following the Board hearing on December 5, 2019, the modified regulatory language and supporting documentation were circulated for a 36-day public comment period, with the changes to the originally proposed text clearly indicated, according to provisions of California Code of Regulations, title 1, section 44

and Government Code sections 11340.85 and 11346.8, from March 26, 2020, to May 1, 2020;

WHEREAS, staff presented to the Board on June 25, 2020 at an informational hearing, an update on the status of the regulation development in light of the current economic conditions, and received guidance on the next steps for finalizing the Regulation;

WHEREAS, following the informational Board hearing, a second version of modified regulatory language and supporting documentation were circulated for a 15-day public comment period, with the changes to the regulatory language text clearly indicated, according to provisions of California Code of Regulations, title 1, section 44 and Government Code section 11340.85, from July 10, 2020, to July 27, 2020;

WHEREAS, staff reviewed written comments received on the Draft EA and prepared written responses to those comments in a document entitled *Response to Comments on the Environmental Analysis Prepared for the Control Measure For Ocean-Going Vessels At Berth* (Response to EA Comments);

WHEREAS, on August 25, 2020, staff posted on the rulemaking page the Final EA, which includes minor revisions; and on August 25, 2020, staff posted on the rulemaking page the Response to EA comments;

WHEREAS, prior to the duly noticed public hearing held on August 27, 2020, staff presented the Final EA and the Response to EA Comments, as released to the public and posted on the rulemaking page on August 25, 2020, to the Board for consideration;

WHEREAS, at the public hearing on August 27, 2020, staff received additional written comments on the Final EA and prepared further written responses to those comments in a document entitled *Supplemental Responses to Comments on the Environmental Analysis Prepared for the Control Measure For Ocean-Going Vessels At Berth* (Supplemental Response to EA Comments, collectively referred to as the "responses to EA comments" along with the August 25, 2020, Response to EA Comments), which was provided to the Board for its consideration and posted to CARB's website prior to the Board's vote on this item;

WHEREAS, a public hearing and other administrative proceedings have been held according to the provisions of Chapter 3.5 (commencing with section 11340), part 1, division 3, title 2 of the Government Code; and

WHEREAS, the Board finds that:

1. The Regulated California Waters, which include California ports and independent marine terminals, feature meteorological, wind, and

- atmospheric conditions peculiar to the local waters of California, and such conditions make it likely that emissions of DPM, PM2.5, ROG, and NOx occurring within these waters and ports are transported to coastal communities and adversely affect human health and welfare and the environment in such communities, thereby calling for special precautions to reduce these emissions;
2. The emissions from diesel auxiliary engines used on ocean-going vessels and boilers used on tanker vessels with steam driven boilers while at berth contribute to regional air quality problems and to potential risk of cancer and non-cancer health effects for residents living in communities near California's major ports and independent marine terminals;
 3. Upon implementation, the Regulation approved herein would reduce emissions of DPM, ROG, GHG and NOx from diesel auxiliary engines used on ocean-going vessels and PM2.5, ROG, and NOx from boilers on tanker vessels with steam driven pumps while at berth and will reduce emissions of carbon dioxide, a GHG;
 4. The Regulation approved herein will be consistent with CARB's environmental justice policy by reducing the health risks from DPM in all communities near major California ports and independent marine terminals as well as further inland, including those with low-income and minority populations regardless of location;
 5. The Regulation approved herein will conform to the requirements of the SIP Strategy;

WHEREAS, in consideration of the ISOR, written comments, and public testimony, the Board finds that:

1. In accordance with Health and Safety Code section 43013(b), the in-use operational requirements and other provisions of the Regulation approved herein are necessary, cost-effective, and technologically feasible for diesel auxiliary engines used on ocean-going vessels and boilers used on tanker vessels with steam driven pumps while at berth within the time provided for compliance;
2. The emissions from diesel auxiliary engines used on ocean-going vessels and auxiliary boilers used on tankers with steam driven pumps while at berth contribute to regional air quality problems and to potential risk of cancer and non-cancer health effects for residents living in communities near California's major ports and independent marine terminals;

3. Upon implementation, the Regulation approved herein would reduce emissions of DPM, NO_x, ROG, and GHG from diesel auxiliary engines used on ocean-going vessels and PM_{2.5}, NO_x, ROG, and GHG from boilers used on tanker vessels with steam driven pumps while at berth and will reduce emissions of carbon dioxide, a greenhouse gas;
4. The compliance schedule contained within the Regulation approved herein is necessary, cost-effective, and technologically feasible;
5. Without the Regulation approved herein, statewide at berth baseline emissions of NO_x, PM_{2.5}, DPM, and ROG from diesel auxiliary engines used on ocean-going vessels and boilers on tankers with steam driven pumps while at berth, are expected to be 12.37 tons per day (TPD), 0.387 TPD, 0.183 TPD, and 0.68 TPD, respectively, in 2032;
6. The Regulation approved herein would reduce emissions of NO_x, PM_{2.5}, DPM, and ROG statewide by about 5.4 TPD, 0.14 TPD, 0.094 TPD, and 0.30 TPD, respectively, in 2032;
7. The Regulation approved herein would reduce emissions of carbon dioxide equivalent (CO₂e) by about 44,000 metric tons in 2032;
8. The reduction of NO_x emissions resulting from the Regulation approved herein would also reduce the formation of secondarily-formed PM in the atmosphere;
9. The reduction in ambient DPM levels and the secondary formation of PM resulting from the Regulation approved herein will likely prevent an estimated 240 premature deaths by 2032, with a total valuation pursuant to standard U.S. Environmental Protection Agency methodology of \$2.32 billion for avoiding both morbidity and various other non-cancer health effects;
10. The added costs of the Regulation approved herein have been analyzed as required by California law, and the analysis of these impacts, as set forth in the Staff Report and revised in the Supplemental 15 Day Notices, indicates that the total cost we expect the affected industry will expend in response to the Regulation will be about \$2.23 billion through 2032;
11. The reporting requirements applicable to businesses in the Regulation approved herein are necessary for the health, safety, and welfare of the people of the State;

12. The benefits of the Regulation approved herein to public health and welfare and the environment outweigh the costs of compliance, implementation, and enforcement;
13. The implementation of shore power infrastructure facilitate additional skilled human operations in and around the port to support zero emission technologies including vessel plug-ins, as well as maintenance, and repair of electrical infrastructure and shore power equipment;

WHEREAS, the Board finds that:

The proposed regulation meets the statutory requirements identified in sections 39600, 39601, 39658, 39659, 39666, 43013, 41511, 38560, 38562, and 39730.5 of the Health and Safety Code;

The Regulation was developed in an open public process, in consultation with affected parties, through numerous public workshops, individual meetings, and other outreach efforts, and these efforts are expected to continue;

No reasonable alternatives to the Regulation considered to date, or that have otherwise been identified and brought to the attention of CARB, would be more effective at carrying out the purpose for which the regulation is proposed or would be as effective and less burdensome to affected entities than the Regulation; and

The Regulation is consistent with CARB's environmental justice policies and do not disproportionately impact people of any race, culture, or income.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby certifies that the Final EA (including the Response to EA Comments, as released to the public and posted on the rulemaking page on August 25, 2020, and the Supplemental Response to EA Comments, as provided to the Board and released to the public at the August 27, 2020, public hearing) was completed in compliance with CARB's certified regulatory program to meet the requirements of CEQA, reflects the agency's independent judgment and analysis, and was presented to the Board whose members reviewed and considered the information therein before taking action to approve the Regulation.

BE IT FURTHER RESOLVED that in consideration of the Final EA, the responses to EA comments, and the entirety of the record, the Board adopts the CEQA Findings and Statement of Overriding Considerations set forth in Attachment A to this resolution.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby adopts amendments to section 2299.3, Title 13 and section 93118.3, Title 17 California Code of Regulations, and adopts sections 93130 – 93130.22, Title 17, California Code of Regulations, as released to the public and posted on the rulemaking page on August 25, 2020.

BE IT FURTHER RESOLVED that the adopted regulatory text may be further revised with non-substantial or grammatical changes, which will be added to the rulemaking record and indicated as such.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to finalize the Final Statement of Reasons, submit the completed rulemaking package to the Office of Administrative Law, and transmit the Notice of Decision to the Secretary of the Natural Resources Agency for posting.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to periodically review the test methods, which are incorporated by reference in the regulation adopted herein, to determine if modifications to the test methods are warranted.

BE IT FURTHER RESOLVED that, pursuant to sections 39515, 39516, 39600, and 39601 of the Health and Safety Code, if modifications to the test methods are warranted, the Board expressly delegates to the Executive Officer the authority to: (a) adopt regulatory amendments to the test methods, set forth in section 93110.5(g), title 17, CCR; (b) conduct public hearings, if necessary; and (c) take other appropriate actions to make such amendments.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to conduct outreach efforts as soon as possible with affected industry to ensure that vessel owners or operators, terminal operators, ports, and CARB Approved Emission Control Strategy operators, are aware of the requirements of the regulation.

BE IT FURTHER RESOLVED that the Board supports human operated zero emission equipment and infrastructure.

BE IT FURTHER RESOLVED that the Board directs the staff to assess the progress made in deploying control technologies for use with tanker and roll on roll off vessels, including assessing data and information received from external stakeholders, to review the potential feasibility of control technologies for use with bulk vessels, general cargo vessels, and vessels at anchor and to publish the findings in a report by December 1, 2022, as specified by the Regulation.

BE IT FURTHER RESOLVED that the Board directs staff to engage the local community group or local AB 617 community steering committee regarding an applicant's proposed project to ensure these adjacent communities are informed and involved in any proposed innovative concept's public comment period prior to an applicant's approval.

BE IT FURTHER RESOLVED that the Board directs staff to continue to engage the articulated tug barge (ATB) industry to determine the best options for cost-effective

emission reductions that recognize the unique nature of ATBs as CARB updates the commercial harbor craft regulation.

BE IT FURTHER RESOLVED that the Board directs the staff to monitor the implementation of the regulation for all regulated vessel types, including progress updates for infrastructure and vessel activity, to report back to the Board with periodic updates, annually or as needed, and to propose amendments to the regulation for the Board's consideration when warranted to resolve any implementation problems that may arise.

BE IT FURTHER RESOLVED that the Board hereby determines that the regulations adopted herein will not cause California off-road engine emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards.

BE IT FURTHER RESOLVED that, to the extent necessary, the Executive Officer shall, upon adoption, forward the regulations to the Environmental Protection Agency with a request for an authorization or confirmation that the regulations are within the scope of an existing authorization pursuant to section 209(e)(2)(A) of the Clean Air Act, as appropriate.

I hereby certify that the above is a true and correct copy of Resolution 20-22 as adopted by the California Air Resources Board.

/s/

Ryan Sakazaki, Board Clerk

APPENDIX II

MEMORANDUM

Date: November 11, 2021
 To: American Waterways Operators
 From: Amnon Bar-Ilan, Christian Lindhjem, Sonja Sax
 Subject: Ramboll Comments on the California Air Resources Board (CARB) Proposed Amendments to the Commercial Harbor Craft (CHC) Regulation

1. REVIEW OF HARBOR CRAFT EMISSIONS IMPACTS AND COMPARISON OF CALIFORNIA HARBOR CRAFT EMISSION INVENTORY

1.1 Introduction

The California Air Resources Board (CARB) air emissions inventory and proposed rule effectiveness are presented in Appendix H of the proposed regulation supporting documentation. This 2021 document updates CARB’s emission inventory methods from the 2007/2009 Commercial Harbor Craft (CHC) emission inventory methods.¹ In general, the approach is similar, but many of the default inputs were substantially revised to lower overall emissions as shown in Figure 1.

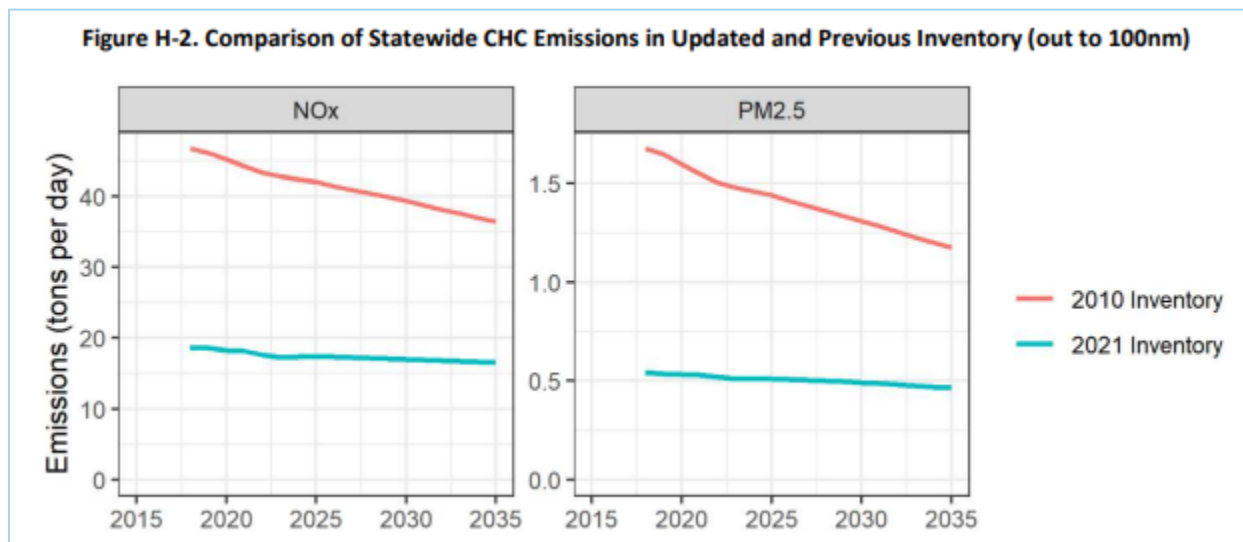


Figure 1. CARB commercial harbor craft emissions inventory comparison. (CARB 2021)

¹ <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-road>

CARB segregated the vessels by type (including vocation) shown in Figure 2. In this report, we focus on the Tugboat types, which include Tugboat-Escort/Ship Assist, Tugboat-Push/Tow, and Tugboat-Articulated Tug and Barge (ATB).

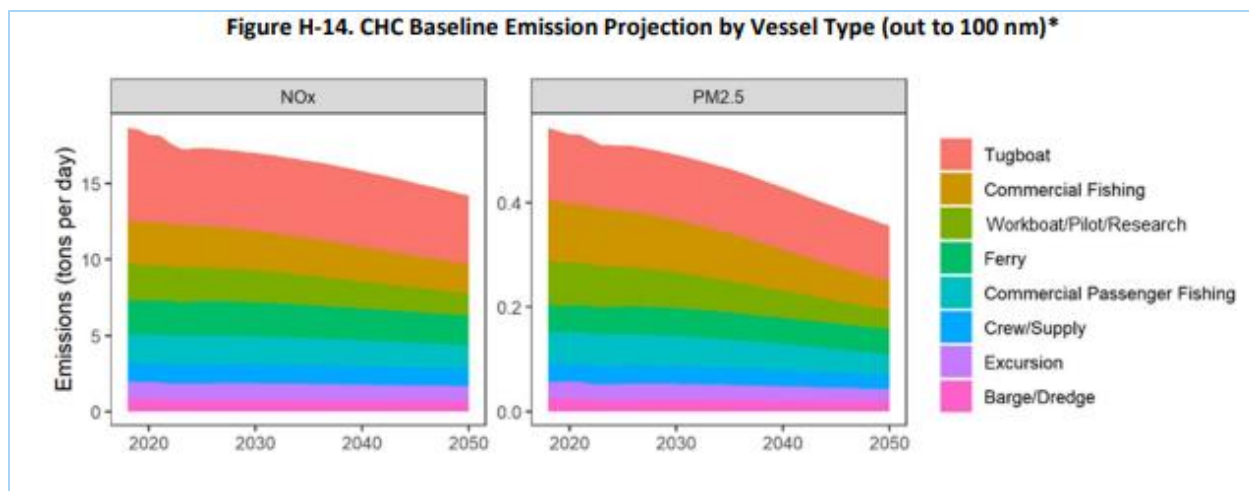


Figure 2. CARB commercial harbor craft emissions inventory by vessel type. (CARB 2021)

Alternative source of activity data includes AIS data that is publicly and freely available from a trusted source.² The AIS data identifies tug and towboats using vessel codes 31 for towboats and 52 for tugs and provide position, speed, and course. The AIS data identifies every vessel operating in US continental waters identified by MMSI for a given year.

Emissions estimates depend on input factors related to the vessel activity and engine characteristics. The AIS data provides the population and activity for all vessels operating in a defined domain. Emissions estimates also require that the new engine emission factors be identified by Tier level in Table H-5 of Appendix H of CARB (2021), age, and fuel correction.

$$\text{Emissions} = \text{Pop} \times \text{Power} \times \text{Activity (hrs)} \times \text{Load Factor} \times (\text{zhEF} + \text{DF} \times (\text{Age}/\text{Life})) \times \text{Fuel Correction}$$

Pop – Population of vessels (activity input)

Power – Engine power (activity input)

Activity – Hours of engine operation (activity input)

Load Factor – Average fraction of available power (CARB input estimate)

zhEF – Emission factor when new (zero-hour) (CARB input estimate)

DF – Deterioration factor (CARB input estimate)

Age – Engine age (activity input)

Life – Useful Life (CARB input estimate)

Fuel Correction – In-use relative to engine certification fuel (CARB input estimate for 2011+ engines is 0.948 – NO_x and 0.852 - PM₃ and PM correction is more significant for older engines)

² <https://marin cadastre.gov/ais/>

³ <https://ww3.arb.ca.gov/msei/chc-appendix-b-emission-estimates-ver02-27-2012.pdf>

The vessel types average load factor estimates according to primary vocation for the range for tugs and towboats is shown in Table 1. Because of the difference in assumed load factor, it is important to appropriately characterize the activity that each vessel performs.

Table 1. CARB Load Factor input by vessel type. (Table H-9, CARB 2021)

Vessel Type	Load Factor	
	Main	Auxiliary
Tugboat-ATB	0.50	0.50
Tugboat-Push/Tow	0.33	0.37
Tugboat-Escort/Ship Assist	0.16	0.34

1.2 Vessel and Emission Inventory and Comparison with CARB Estimates

We used the AIS records to identify tug and towboats using vessel identification numbers 31 and 52, and American Waterways Operators (AWO) provided more detailed input for their vessel fleet including primary vocation, engine power, Tier level, and, in some cases, hours of operation in California waters. Table 2 shows the comparison of the vessel population found operating within 100 nm of the California coast during 2019. CARB (2021) reported that they identified the population of 177 tugs and towboats through the harbor craft reporting in Table H-3 and upwardly adjusted that inventory to account for unreported vessels through Coast Guard lists at California home ports. The AIS records find only 200 tug and towboats (23 vessels or about 13% more than reported by CARB) during 2019 compared with CARB's estimate in Table H-3 of 229 vessels or 29 more than were reported in the AIS records.

3377.8

Table 2. Vessel population found in California waters <100 nm in 2019

Vessel Type	CARB App. H			AIS Records		
	Table H-3	Adjusted Total Table H-3	Average Hours Table H-4	Population	Average Hours (>0.1 knots)	Average Hours (<0.1 knots)
Tugboat-ATB ^a	11	19	2,466	14 ^a	1,991	1,380
Tugboat-Push/Tow	108	147	1,550	118	817	1,216
Tugboat-Escort/Ship Assist	58	63	2,676	68	2,141	3,855
Combined Tug and Towboat	177	229	1,936	200	1,350	

^a – AIS does not distinguish ATBs from Towboats; AWO identified six fleet vessels and eight others found in AIS records as ATB.

We used the AIS records to determine hours of operation for each tug and towboat operating in California waters out to 100nm during 2019. The average hours for AIS compared favorably with the CARB averages except for towboats where the operating hours about half that estimated by CARB. Total and average hours at less than 0.1 knots speed were considered to use no propulsion power, but auxiliary engines running at normal loads, though many tugs at their base will use shore power for auxiliary loads such as to keep the AIS transponders emitting a signal.

AWO supplied tier and power of the main and auxiliary engines for their members' fleets as summarized in Table 3. For other tugs and towboats found in the AIS data, we used CARB default information with Tier 1 emissions rates to towboats (including ATB) and Tier 2 to tugboats to hours of operation. The AWO supplied fleets generally had higher installed power

than the CARB averages by vessel type, so using the CARB default for AIS extra (non-AWO) fleets leads to a conservative overestimate of emissions.

Table 3. Vessel population and inputs use found in California waters <100 nm in 2019

Vessel Type	CARB App. H Default Inputs			AWO Fleet		
	AIS Extra Population	Main Engines (hp)	Tier	AIS AWO Population	Main Engines (hp)	Tier
Tugboat-ATB ^a	8	4395	1	6 ^a	6400	2, 3
Tugboat-Push/Tow	94	731	1	24	2700	0 – 3
Tugboat-Escort/Ship Assist	7	2450	2	61	3898	0 – 4
Combined Tug and Towboat	109			91		

^a – AIS does not distinguish ATBs from Towboats, AWO identified six vessels in AWO fleets and eight in AIS records as ATB.

The CARB default and AIS hours of operation were combined in the emissions to estimate tug and towboat emissions for 2019 as shown in Table 4. When applied, deterioration and fuel corrections primarily increase PM emissions relative to our baseline estimate. We also investigate the impact that fleet mix of engine Tier levels could have on average emissions rates primarily increasing PM emissions rates. The Tier levels for the AWO fraction of all vessels was provided, while CARB default fleet mix was used for the other tugs and towboats found in the AIS records.

Table 4. Tug and towboat emissions in California waters <100 nm in 2019.

Vessel Type	AIS Emissions Estimates		AIS (with deterioration, fuel correction)		AIS Additional Correction for Fleet Mix	
	NOx tpd	PM tpd	NOx tpd	PM tpd	NOx tpd	PM tpd
Tugboat-ATB ^a	1.36	0.020	0.92	0.019	0.85	0.020
<i>Idle <0.1 knots</i>	4%	5%				
<i>Fraction within 24 nm</i>	87%	83%				
Tugboat-Push/Tow	0.97	0.023	1.11	0.032	1.05	0.039
<i>Idle <0.1 knots</i>	9%	15%				
<i>Fraction within 24 nm</i>	82%	85%				
Tugboat-Escort/Ship Assist	2.04	0.041	2.31	0.057	2.31	0.057
<i>Idle <0.1 knots</i>	17%	26%				
<i>Fraction within 24 nm</i>	99%	99%				
Sum Tug and Towboats	4.37	0.086	4.34	0.109	4.22	0.117
CARB App. H (Estimated from Figure H-14)	6.1	0.14				
Relative to CARB Figure H-14	72%	62%	71%	78%	69%	83%

1.3 Assumptions

- AIS data using a <0.1 knot cutoff to eliminate vessel activity when main (and often auxiliary) engines are at least low power or entirely off. The '<0.1knot' criteria best matched the propulsion engine time for tugboat (4% overestimate) and towboats and others identified in AWO fleets (4% underestimate).
 - Under <0.1 knot, the auxiliary engines were assumed to continue to be used to supply power for the AIS and other electrical demands. This is a known overestimate because many tugs plug into shore power while at base.
- Based on the CARB default model year, we used Tier 1 engines for towboats (both ATB and others) and Tier 2 for tugboat-Escort/Ship Assist.
 - CARB reported to have used a distribution of Tier levels; Andrew Daminao (CARB, email to Charles Constanzo, Friday, September 3, 2021 8:55 AM) provided a file 'Towing Vessel Inventory 2019' that provided information about the fleet mix by tier level.
 - Shown in Table 5 is a comparison of the impact on emissions that fleet mix could have compared with either Tier 1 or Tier 2. The small fraction of Tier 0 in the fleet has a significant impact (greater than 50% for DPM) on towboat emissions rates estimated and less but still significant on the tugboats.
 - AWO provide fleets' engines characteristics for 2019 that had generally higher Tier levels and averaged lower emissions levels than the fleets provided by CARB.

Table 5. Fleet mix emissions impacts from CARB towing vessels file and AWO Submittals for 2019.

Vocation	Tier	Count	AW O Co unt	Emission Factor by Tier (g/hp-hr)		CARB Tier 0, 1 Contribution	
				NOx	DPM	NOx	DPM
Tugboat-ATB	0	2	0	7.34	0.37	25%	49%
Tugboat-ATB	1	1	0	6.97	0.12	12%	8%
Tugboat-ATB	2	6	2	5.08	0.09		
Tugboat-ATB	3	2	4	3.69	0.05		
Tugboat-ATB	4	0	0	1.04	0.03		
Average ATB (CARB)		11		5.41	0.136		
Average ATB (CARB)		Ratio vs. Tier 1		0.78	1.14		
Average ATB (AWO)		6		4.15	0.063		
Tugboat-Push/Tow	0	32	1	7.34	0.37	39%	65%
Tugboat-Push/Tow	1	14	4	6.97	0.12	16%	9%
Tugboat-Push/Tow	2	42	8	5.08	0.09		
Tugboat-Push/Tow	3	17	11	3.69	0.05		
Tugboat-Push/Tow	4	0	0	1.04	0.03		
Average Towboat (CARB)		105		5.80	0.173		
Average Towboat (CARB)		Ratio vs. Tier 1		0.83	1.44		
Average Towboat (AWO)		24		4.85	0.088		
Tugboat-Escort/Ship Assist	0	4	5	7.34	0.37	15%	34%
Tugboat-Escort/Ship Assist	1	8	12	6.97	0.12	28%	22%
Tugboat-Escort/Ship Assist	2	18	22	5.08	0.09		
Tugboat-Escort/Ship Assist	3	6	21	3.69	0.05		
Tugboat-Escort/Ship Assist	4	0	1	1.04	0.03		
Average Tugboat (CARB)		36		5.52	0.121		
Average Tugboat (CARB)		Ratio vs. Tier 2		1.09	1.35		
Average Tugboat (AWO)		61		5.09	0.104		

- The deterioration of emissions due to age is a large uncertainty given that engines are regularly rebuilt and that historic regulations have encouraged engine rebuilds with emission upgrades to higher Tier levels.
 - CARB (2021) assumed that towboats would average a model year of 2003 (Table H-1), which in 2019 is 16 years old and past their useful life (Table H-8) of 14 years for main engines. This would increase NOx emission rates by 24% and PM by 77% for towboats.
 - CARB (2021) assumed that tugboats would average a model year of 2009 and be 10 years old in 2019. This would increase NOx emission rates by 15% and PM by 48% for towboats.

1.4 Conclusion

We demonstrated using publicly available AIS records that it is possible to accurately identify vessel activity spatially defined. Individual vessels are identifiable through MMSI numbers unique to the AIS transmitters along with their actual activity within California waters. Using the AIS data, CARB can more accurately identify the unreported vessels and not rely on a less reliable list of vessels by home port.

Overall, the number and emissions from tugs for both NOx and PM (including towboats) appear to have been overestimated in Appendix H. The emissions overestimate depends on several input variables, but engine emissions deterioration and fleet fraction, especially the remaining Tier 0 engines still in operation, have a significant effect on PM emissions rates.

2. COMMENTS ON THE HEALTH STUDY (APPENDIX G)

2.1 Health Risk Assessment for South Coast and Bay Area Air Basins

CalPuff Modeling

The CalPuff modeling conducted in support of the Proposed Amendments to the CHC Rulemaking involve a number of model inputs and assumptions as outlined in Appendix G. Ramboll reviewed the modelling methodology as well as supporting documentation provided by CARB.

A missing element of the modeling was any validation of the key model inputs as well as the model results. Because of the complex nature of the modeling, including a number of assumptions regarding the emissions inventory, spatial and temporal allocation of emissions, complex terrain and meteorology, it is paramount that CARB validate to the extent possible the model inputs and results.

3377.9

With regards to model inputs, at the very least CARB should verify that the meteorological estimates used in the model compare to actual measured estimates from a relevant meteorological station. In addition, CARB used a single year of meteorological data and it would also be important to consider using more than one year in order to capture any variability in meteorological parameters that tend to vary from year to year.

With regards to model results, one important way to validate results includes comparing modeled results with measured values at monitor locations at or near the modeled receptor points. While we understand that the CARB is only considering contributions from CHCs in the form of diesel particulate matter, the modeling is used to estimate exposures to diesel

particulate matter and PM_{2.5}. We also understand that ambient monitors will be measuring PM_{2.5} from all sources. Therefore, we expect that modeled concentrations would be within the range of measured estimates or lower.

Ramboll conducted a check of how modeled PM concentrations compare to measured PM_{2.5} concentrations for the South Coast Air Basin. Table 6 shows the results of the comparison between measured concentrations at monitoring sites in the South Coast Air Basin and nearby receptors.

As shown in Table 6, the results from this preliminary check of the data show that the modeled estimates are overestimating exposures as these estimates are up to 4 times higher than actual measured concentrations of PM_{2.5} particularly in the most impacted regions (i.e., near the shoreline). Inland modeled estimates (which are expected to be less impacted by CHC emission) are closer to the measured concentrations although still exceed these concentrations for some receptors. This indicates that overall the modeled estimates are overestimating exposures. CARB should similarly verify the results for the Bay Area Air Basin.

An additional source of uncertainty is associated with scaling the concentrations for future years based on changes in emissions. Because the concentrations are not only based on the changes in emissions, but other key factors including meteorology, this introduces a significant amount of uncertainty, making the validation of model estimates even more critical. Also, because we believe that emissions are overstated this will contribute to even more uncertain exposure estimates based on simply scaling.

Table 6. Comparison between annual average PM_{2.5} measured concentrations at monitoring stations in the South Coast to modeled concentrations at the nearest receptors.

PM _{2.5} (mg/m ³) annual average	Average of all POCs (daily)	Average of 1hr	Closest Receptors (Modeled PM _{2.5} mg/m ³ , Receptor #)			
Long Beach (North)	10.81	-	34.82 (1856)	35.68 (1857)	38.30 (1858)	34.15 (1855)
Long Beach (South)	12.82	14.56	51.57 (1874)	48.44 (1876)	59.88 (1900)	58.13 (1901)
Long Beach-Route 710 Near Road	13.87	15.02	24.01 (1825)	24.80 (1826)	22.29 (1827)	22.35 (1824)
Anaheim	11.05	13.62	15.30 (2602)	14.34 (2604)	16.13 (2601)	14.17 (2588)
Compton	13.24	-	18.05 (1683)	18.41 (1677)	18.96 (1685)	18.03 (1684)
Pico Rivera #2	12.49	-	8.41 (1458)	8.55 (1459)	9.04 (1457)	9.09 (1467)
Los Angeles-North Main Street	11.69	-	7.28 (530)	7.22 (491)		

Cancer Health Risk Assessment

The cancer risk assessment also relies on a number data inputs and assumptions, starting with the estimates from the CalPuff modeling. Many of the inputs and assumptions are considerably conservative as they are meant to be health protective and are screening-level analyses. It is important to note that screening level analyses are often followed by more targeted analyses with refined parameters that are more site-specific and/or based on more realistic parameters in order to yield more realistic risk results. Importantly, the numerous levels of

3377.10

conservativeness in screening level analyses result in risk values that are often highly overestimated and do not necessarily reflect actual risks.

One key data input includes the exposure estimates, which are based on the CalPuff model inputs and a number of additional key assumptions. As noted above, based on Ramboll's check of the modeled DPM estimates, it is likely that these estimates are overestimating exposures, both due to overestimated emissions (see Section 1) contributing to overestimates of about least about 20-60%, in addition model assumptions that result in overestimates compared to measured estimates by as much as a factor of 4 (see comments above) at some receptor locations.

Exposure estimates are also based on updated methodology that also increases the risk estimates because of the application of high (95/80%) breathing rates and multiplicative factors for greater susceptibility in children. In addition, the risk assessment includes several conservative assumptions for estimating exposures including exposures across a residence time of 70 years⁴ and assuming a person is home 24 hours a day over those 70 years. All of these conservative assumptions compound to generate highly inflated risks.

Another key input for the risk assessment is the use of a cancer potency factor (CPF). CARB relied on the estimate developed by OEHHA of $1.1 \text{ (mg/kg-day)}^{-1}$ or 3×10^{-4} per $\mu\text{g}/\text{m}^3$. This cancer potency value, which represents a 95% upper confidence interval of the lifetime risk, is dated and overly conservative compared to more recent evaluations of the literature on which the cancer potency is based.

At the time of the development of the cancer potency EPA deemed the evidence to be too uncertain to use for cancer risk assessment (US EPA 1994⁵). An HEI study (HEI 1995⁶) found similar limitations associated with the studies that were the basis of the OEHHA value. These limitations included (1) questions about the quality and specificity of the exposure assessments for diesel exhaust, (2) a lack of quantitative estimates of exposure to allow derivation of an exposure–response function, and (3) lack of adequate data to account quantitatively for individual other factors that might also be associated with lung cancer, such as smoking. In 2002, EPA⁷ again concluded that data were too uncertain for developing a cancer potency, but using more qualitative methods determined the risk to be in the range of 10^{-5} to 10^{-3} . Therefore, the risk could potentially be about 300 times lower than the OEHHA value.

Another important issue in extrapolating results from older epidemiology studies, as OEHHA did, is that diesel exhaust exposure in these studies is based on diesel exhaust composition that is very different compared to more contemporary diesel exhaust, and also quite different from marine vessel emissions (as these studies evaluated exposures in railroad workers and truck drivers). Specifically, because of the long latency period for lung cancer, epidemiology studies need to examine workers whose exposures started more than 20 years earlier. These particular studies are based on exposures from the 1950s and 1960s. However, the US EPA and CARB have progressively tightened standards for particulate emissions from diesel engines, including marine engines, resulting in the development of new technology diesel engines with significantly lower emissions and also likely different composition. Because these

⁴ A 30 year residence time is considered to be a more realistic residence time period.

⁵ US EPA. Health Assessment Document for Diesel Emissions (External Review Draft, 1994) - Volume 1. U.S. Environmental Protection Agency, Washington, D.C., EPA/600/8-90/057Ba (NTIS PB95192092)

⁶ HEI. Diesel Exhaust: A Critical Analysis of Emissions, Exposure, and Health Effects. 1995. [Diesel Exhaust New Scan.pdf \(healtheffects.org\)](http://www.healtheffects.org)

⁷ U.S. EPA. Health Assessment Document for Diesel Engine Exhaust (Final 2002). U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington Office, Washington, DC, EPA/600/8-90/057F, 2002

changes have resulted in not only quantitative reduction in mass emitted, but have also resulted in differences in the composition with respect to size and chemicals associated with the exhaust (e.g., Hesterberg et al. 2011⁸), the epidemiology studies based on old generation engines may not be applicable to current emission conditions.

Even if the epidemiology data were deemed robust enough for use in quantifying the cancer risks of DPM, the uncertainty suggests that cancer risks could be over 100 fold lower than estimates by CARB, which would bring the cancer risks into an acceptable range by US EPA and California standards (i.e., 10^{-6} to 10^{-4}) under the current regulations, without the need for application of the proposed regulations.

At a minimum, CARB should provide a more detailed discussion of the uncertainties noted in these comments and the impact on the estimated risks, which we note are likely highly inflated. The cumulative impact of application of multiple conservative assumptions needs to be acknowledged.

2.2 Regional PM_{2.5} Mortality and Illness Analysis for California Air Basins

CARB used two different methods to estimate the impacts of the Proposed Amendments to the CHC Regulation on mortality and other health effects (hospital admissions for cardiovascular and respiratory diseases and emergency department visits for asthma). The first method relies on the modeled estimates for the two air basins (San Francisco Bay and South Coast) and the second method is a reduced form analysis that is applied to other air basins as well as to impacts from reductions in NOx.

3377.11

While the CARB health analysis is based on standard methodology used by EPA to calculate health impacts, we were not able to check the results based on the data provided by CARB as many of the model inputs were missing. Also, even though the methods appear to be applied correctly, given what we were provided for review, the approach taken by CARB is unconventional. First, CARB is using two different methods to calculate health impacts, one based on modeled results and a second based on a reduced-form method with large simplifying assumptions. Both methods are subject to large uncertainties, but the reduced-form method has significantly more uncertainty.

Also, the way the CARB approaches the health analysis is also significantly different from the way EPA and others have conducted similar analyses (i.e., using BenMAP). CARB essentially is computing effects based on changes in PM_{2.5} modeled estimates (or PM emission reductions) for each year starting in 2023 and up to 2038 between the current regulations and the proposed amendments. The impacts are summed across air basins for each year, and then summed across all years. To our knowledge, this type of cumulative assessment of health benefits across a long time period in the future has not been conducted previously using the methods CARB is using. We welcome other examples where this has been done.

The implications are that these impacts are cumulative over time. In addition, the impacts actually increase over the years (presumably as the difference in emissions or concentrations increase between current and proposed regulations).

⁸Hesterberg, T. W., Long, C. M., Sax, S. N., Lapin, C. A., McClellan, R. O., Bunn, W. B., & Valberg, P. A. (2011). Particulate Matter in New Technology Diesel Exhaust (NTDE) is Quantitatively and Qualitatively Very Different from that Found in Traditional Diesel Exhaust (TDE). *Journal of the Air & Waste Management Association*, 61(9), 894–913.

The amount of uncertainty associated with this analysis is very large and propagated across all the steps in the risk assessment process including 1) emissions estimation, 2) modeling and scaling of PM concentrations (which rely on emission inputs), 3) deriving PM from diesel PM, 4) assumptions regarding conversion of NO_x to PM, 5) application of health functions from epidemiology studies, and 6) estimation of baseline health statistics and population statistics for future years. The magnitude of the uncertainty and the impact on the direction of bias has not been evaluated by the CARB, but our analysis, based on available data, suggest that the magnitude is quite large (and larger than expressed by the 95% confidence intervals provided by CARB) and most likely are overstating the health benefits of the proposed amendments.

In light of the significant amount of uncertainty in the health analysis, we strongly suggest that CARB present the findings so that they are more transparent and in a way that acknowledges the level of uncertainty, as well as amount of confidence that can be placed on the results. For example, we don't think it is appropriate to present the combined results for the health analysis based on modeled data and those based on the IPT methodology, because the IPT results would tend to be much more uncertain and less reliable. Also, instead of presenting a total number of deaths as the sum across air basins and years, CARB should present results as a range on potential annual impacts for each air basin, separately. This again, with the acknowledgement that year to year there is uncertainty and the numbers could be more or less than estimated depending on many different model assumptions at every step in the risk assessment process.

Some of the key limitations and sources of uncertainty of these two methodologies for estimating the potential health impacts from the Proposed Amendments are discussed below.

Analysis for the San Francisco Bay and South Coast

As is the case for the cancer health risk assessment, the PM mortality and illness analysis relies on a number of model inputs and assumptions, many that are associated with significant uncertainty that tends to overstate the risks.

In interpreting the mortality and illness results, it is important to consider that the health impacts are based on a single population-based epidemiological study that infer statistical associations between health effects and air pollution exposures, but that cannot provide definite evidence of a cause and effect. This is because these studies have important limitations that preclude definite conclusions regarding a causal link between PM and mortality or illness, including uncertainty regarding the exposure estimates, the potential role of other pollutants or factors that might explain the effects, and evidence that there is likely a threshold below which health impacts are unlikely. In addition, the components of PM that may be associated with adverse health effects are yet unknown, but the analyses assume that all PM is equally toxic, making it a very conservative analysis.

The epidemiological studies that form the basis of the health study, including the mortality study by Krewski *et al.* (2009)⁹ rely on data from central-site monitors to estimate personal exposures. This results in exposure measurement error because central-site monitors may not accurately capture population mobility, the uneven distribution of PM exposure attributable to local sources, pollution patterns that can be affected by terrain features and weather, and daily variations in PM concentrations or composition that may differ from variations experienced by

⁹ Krewski, D. et al., 2009. Extended Follow-up and Spatial Analysis of the American Cancer Society Study Linking Particulate Air Pollution and Mortality Report. Health Effects Institute, 140 <https://www.healtheffects.org/system/files/Krewski140.pdf>

individuals. These factors can bias the results of an epidemiology analysis in either direction. The direction and magnitude of the bias depends on the type of measurement error. For PM_{2.5}, however, because of the spatial variability of air pollutant concentrations the bias is likely to result in effects being overestimated (e.g., Goldman *et al.*, 2011¹⁰, Rhomberg *et al.* 2011¹¹).

The bias associated with confounding effects is particularly difficult to address in epidemiology studies because it is challenging to account for all potential confounding factors. A confounder is a factor that is associated with both an exposure and an outcome, and may make it appear that the exposure is associated with (or caused) the outcome. In PM mortality studies there is evidence that co-pollutants can confound the PM mortality association, especially because many of the pollutants are strongly correlated, and disentangling the effects of any single pollutant (if any) is difficult. Even if potential confounders are accounted for in studies, there may still be issues of how well the confounding variables are measured and controlled for. For example, in the study by Krewski *et al.* (2009), which is used by CARB for the mortality estimates, data on potential confounders such as smoking and body mass index were determined at the beginning of the study for all participants, but were not re-evaluated over the follow up study period. Changes in these variables over time could alter confounding effects. The issue of confounding relates to both the assumption of causality, where another factor may actually be the causal agent, and to the magnitude of the association, where a co-factor may account for some of the observed risk. In either case, ignoring the effects of confounding results in overstated effects estimates.

Another source of uncertainty is the assumption of a log-linear response between exposure and health effects, without consideration for a threshold below which effects may not be measurable. The issue of a threshold for PM_{2.5} is highly debated and can have significant implications for health impacts analyses as it requires consideration of current air pollution levels and calculating effects only for areas that exceed threshold levels. Without consideration of a threshold, effects of any change in air pollution below or above the threshold are assumed to impact health. Interestingly, although EPA traditionally does not consider thresholds in its cost-benefit analyses, the NAAQS itself is a health-based threshold level that EPA has developed based on evaluating the most current evidence of health effects. Most epidemiological studies do not indicate that a threshold exists, but these studies often do not have the statistical power to detect thresholds. Some studies that have employed different statistical methods have shown evidence of a threshold for PM-mortality effects. For example, Abrahamowicz *et al.* (2003)¹² found evidence for a PM_{2.5} threshold at about 16 µg/m³ below which mortality effects were not observed. Considering a threshold for PM effects would mean that effects would occur only when threshold levels of PM is exceeded.

Sensitivity analyses are often warranted using different health functions from different studies in order to evaluate the potential variability and/or uncertainty in health estimates. For example, some epidemiological studies have reported no mortality impacts from PM_{2.5}

¹⁰ Goldman, GT; Mulholland, JA; Russell, AG; Strickland, MJ; Klein, M; Waller, LA; Tolbert, PE. 2011. "Impact of exposure measurement error in air pollution epidemiology: Effect of error type in time-series studies." *Environ. Health* 10 (1) :61. 211-5049

¹¹ Rhomberg, LR; Chandalia, JK; Long, CM; Goodman, JE. 2011. "Measurement error in environmental epidemiology and the shape of exposure-response curves." *Crit. Rev. Toxicol.* 41 (8) :651-671. 211-7617

¹² Abrahamowicz M, Schopflocher T, Leffondré K, du Berger R, Krewski D. Flexible modeling of exposure-response relationship between long-term average levels of particulate air pollution and mortality in the American Cancer Society study. *J Toxicol Environ Health A.* 2003 Aug 22-Oct 10;66(16-19):1625-54.

exposures (Beelen et al., 2009¹³; Enstrom, 2005¹⁴, Lipfert et al., 2006¹⁵). This means that if the BenMAP analyses used different concentration-response functions, the actual impacts may be very different from those reported in this analysis and could include a zero effect.

One additional important uncertainty stems from the assumption that all PM_{2.5}, regardless of composition, is equally potent in causing health effects such as mortality. This is important because PM_{2.5} varies significantly in composition depending on the source, and this is particularly important because the composition of particulate matter from diesel has also changed over time as a function of changes in both diesel fuel composition as well as the use of emission controls. Several reviews have evaluated the scientific evidence of health effects from specific particulate components (e.g., Rohr and Wyzga 2012¹⁶; Lippmann and Chen, 2009¹⁷; Kelly and Fussell, 2007¹⁸). These reviews indicate that the evidence is strongest for combustion-derived components of PM including elemental carbon (EC), organic carbon (OC) and various metals (e.g., nickel and vanadium), however, there is still no definitive data that points to any particular component of PM as being more toxic than other components. EPA also stated that results from various studies have shown the importance of considering particle size, composition, and particle source in determining the health impacts of PM (US EPA, 2009¹⁹). Further, EPA (2009) found that studies have reported that particles from industrial sources and from coal combustion appear to be the most significant contributors to PM-related mortality, consistent with the findings by Rohr and Wyzga (2012) and others. Therefore, by not considering the relative toxicity of PM components, BenMAP analyses are likely to be conservative.

Analysis Using the IPT methodology for Other Air Basins (and NOx)

In addition to the analysis conducted on modeled PM_{2.5}, CARB applied a reduced-form methodology (IPT) to estimate additional health impacts for other air basins and from PM_{2.5} derived from NOx emissions. These reduced-form analyses involve important simplifying assumptions that can greatly affect the reliability of the estimated health impacts.

The uncertainties described in the previous section also apply to the development of the IPT factors that are used to estimate the impacts for other air basins. Additional uncertainty is introduced when applying these IPT factors to the estimated emissions for this rulemaking. The IPT factors are based on a specific time period, and therefore important variability due to meteorological changes and or spatial differences are not accounted for. Most of these uncertainties were not discussed or considered by CARB. Importantly, a large majority of the assumptions and uncertainties likely result in overestimated benefits, particularly when considering the compounding effects of the uncertainties in the various modeling inputs, starting with the emissions estimates, on the final calculation.

¹³ Beelen, R; Hoek, G; van den Brandt, PA; Goldbohm, RA; Fischer, P; Schouten, LJ; Jerrett, M; Hughes, E; Armstrong, B; Brunekreef, B. 2008. "Long-term effects of traffic-related air pollution on mortality in a Dutch cohort (NLCS-AIR Study)." *Environ. Health Perspect.* 116 (2) : 196-202

¹⁴ Enstrom, JE. 2005. "Fine particulate air pollution and total mortality among elderly Californians, 1973-2002." *Inhal. Toxicol.* 17 (14) :803-816. 209-6826

¹⁵ Lipfert, FW; Wyzga, RE; Baty, JD; Miller, JP. 2006. "Traffic density as a surrogate measure of environmental exposures in studies of air pollution health effects: Long-term mortality in a cohort of US veterans." *Atmos. Environ.* 40 (1) :154-169. 206-7558

¹⁶ Rohr A.C., R.E. Wyzga, 2012. Attributing health effects to individual particulate matter constituents. *Atmos Environ.*, 62, 130-152. doi:10.1016/j.atmosenv.07.036.

¹⁷Lippmann, M., L.C. Chen, 2009. Health effects of concentrated ambient air particulate matter (CAPs) and its components. *Crit. Rev. Toxicol.*, 39, 865e913.

¹⁸ Kelly, F.J., J.C. Fussell, 2007. Particulate Toxicity Ranking Report. Report Number 2/07. Environmental Research Group, Kings College, London.

¹⁹ U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, Dec 2009). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-08/139F, 2009

As noted previously, we don't believe it is appropriate for CARB to combine the results from this analysis with the analysis for the two air basins, for which modeled estimates are available. In addition, the estimated range of annual impacts for each air basin should be reported instead of summing the cumulative results across years.

2.3 Conclusions

The health risk assessments conducted by CARB are subject to a significant number of uncertainties that are propagated through the risk assessment steps and that we have shown to overestimate the health impacts. We first show that emissions estimates are inflated (see Section 1) and these estimates are inputs to the CalPuff modeling used to estimate exposures and risks for the Bay Area and South Coast Air Basins. We also note that CARB did not validate the model estimate against measured levels of PM_{2.5}. Our preliminary analysis indicates that the modeled estimates are overestimating the measured levels for receptors near monitoring stations, particularly in highly impacted areas. Lastly, we highlight many of the risk assessment model assumptions that will also contribute to overstated health impacts in both the cancer risk assessment and the mortality and illness assessment.

Specifically, in the cancer risk assessment the use of highly conservative exposure assumptions (e.g., high breathing rates, 70 years of exposures 24 hours a day), application of sensitivity factors, and use of a highly conservative cancer slope factor all add up to highly inflated cancer risks. Similarly, in the mortality and illness analysis, risks are also likely to be overstated because of assumptions related to the choice of epidemiological study as the basis of the analysis, as well as the assumptions regarding the year to year changes in emissions across the air basins. Importantly, because the two methods used by CARB are associated with significantly different amount of uncertainty, the mortality and illness results should be presented as annual effects, and shown separately by air basin and by methodology, noting that results using the IPT approach will be more uncertain than those based on modeled results.

Overall, CARB needs to provide a more robust validation of modeled assumptions, a more thorough discussion of the underlying uncertainties and impact on the results, and a more transparent representation of the study results.

Comment Log Display

Here is the comment you selected to display.

Comment 17 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name R.A.

Last Name Carpenter

Email restaite@restaite.net

Address

Affiliation R.E. Staite Engineering, Inc.

Subject Public Comments Item 22-5-1 Amendments to the CHC Regulations

Comment

Thank you for the opportunity to submit comments regarding Item 22-5-1: Public Hearing to Consider Proposed Amendments to the CHC Regulations.

Attachment www.arb.ca.gov/lists/com-attach/3713-chc2021-WioHdARnBDsCbQRn.pdf

Original File Name Public Comments - Item 22-5-1 Public Hearing to Consider Proposed Amendments to the CHC Regulation.pdf

Date and Time 2022-03-24 08:20:30

Comment Was Submitted

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

Board Comments Home



R. E. STAITE ENGINEERING INC.

ESTABLISHED 1938 CLASS A LICENSE 054631

March 22, 2022

Clerks' Office
California Air Resources Board
1001 I Street
Sacramento, California 95814

Attn: Ms. Liane Randolph, Chair, California Air Resources Board

RE: Public Comments

Subject: Proposed Amendments to the Regulation to Reduce Emissions from Diesel Engines on Commercial Harbor Craft Operated within California Waters and 24 Nautical Miles of the California Baseline

Dear Chairperson Randolph:

R.E. Staite Engineering, Inc. (RES) is a small maritime business that performs the construction, repair and maintenance of marine infrastructure and waterways. R.E. Staite dredges ports and government federal channels for access so that goods can be delivered to landside vendors and the military can continue to operate their fleet in ready to go fashion. RES repairs wharfs, docks and the infrastructure needed to unload the goods and materials from the water to the landside, and also provides the government/military safe access to their vessels. RES repairs bridges, drives piling and maintains the infrastructure needed to transfer goods and services on land. We are an essential service - we perform the construction services needed to help keep waterside endeavors in business and we keep the economy moving and strong. We perform these services as a small business and use Commercial Harbor Craft (CHC) to perform the work.

R.E. Staite Engineering, Inc. has been an engaged partner in the review of the Proposed Amendments to the current CHC regulations. We have provided information about our company and equipment, identified our concerns and have proposed reasonable solutions. While our data has been used and our comments have been accepted for review, we have still felt like a check mark on a to-do list in order to meet a deadline.

3378.1

Our comments made in our November 15th letter to Board are still applicable (attached for reference) and we do not feel like they have been addressed in a meaningful way. We would like the following four items addressed prior to approval of the proposed regulations:

1. Allowing A Reasonable Timeframe For Upgrades for Commercial Harbor Craft;
2. Providing Adequate Funding and Flexibility In Grant Application Requirements;
3. Implementing Incentive Based Compliance (Fleet Averaging / Best Available Control Technology (BACT)); and
4. Including a Small Business Phasing Plan

In addition to the above items, we would like to request that CARB staff employ a maritime expert that knows our vessels and their capabilities and can serve as a liaison between stakeholders and CARB staff to assist with implementation of this new rule.

2145 E. Belt Street, San Diego, California 92113 • phone: 619.233-0178 fax: 619.233.3706

Public Comments
Proposed Amendments to the Regulation to Reduce Emissions
from Diesel Engines on Commercial Harbor Craft Operated within
California Waters and 24 Nautical Miles of the California Baseline

R.E. Staite Engineering, Inc.

We would encourage the Board to NOT approve the proposed regulations today, but to continue to have Staff work with the engaged stakeholders to refine the proposal and its compliance processes so that it is workable for the maritime industry while still achieving emission reductions.

3378.1
(cont.)

Thank you for your consideration.

Sincerely yours,

R.E. STAITE ENGINEERING, INC.


R.A. Carpenter
President

Attachment: Letter to CARB Board, November 15, 2021

the following letter also in comment 3158



R. E. STAITE ENGINEERING INC.

ESTABLISHED. 1938 CLASS A LICENSE. 654631

Delivery vis Electronic Submittal:
<https://www.arb.ca.gov/lispub/comm/bclist.php>

November 15, 2021

Clerks' Office
California Air Resources Board
1001 I Street
Sacramento, California 95814

Attn: Ms. Liane Randolph, Chair, California Air Resources Board

RE: Public Comments

Subject: Proposed Amendments to the Regulation to Reduce Emissions from Diesel Engines on Commercial Harbor Craft Operated within California Waters and 24 Nautical Miles of the California Baseline

Dear Chairperson Randolph:

R.E. Staite Engineering, Inc. (RES) has reviewed the materials included with the Proposed Amendments to the Regulation to Reduce Emissions from Diesel Engines on Commercial Harbor Craft (CHC) Operated within California Waters and 24 Nautical Miles of the California Baseline that the California Air Resources Board (CARB) is considering on November 19, 2021. R.E. Staite Engineering, Inc. is strongly opposed to the Proposed Amendments to the Commercial Harbor Craft (CHC) Regulations. RES requests that the Board deny the CHC Proposed Amendments. Governor Newsom's Executive Order N-79-20 directed CARB and other State agencies to transition off-road vehicles and equipment to 100 percent zero-emission by 2035 where feasible and cost effective. **The CHC Proposed Amendments are not feasible, nor cost effective.**

If the CHC Proposed Amendments (dated September 21, 2021) are not denied, we request that CARB suspend the suspend the rulemaking and address the following items in order to comply with the direction of Executive Order N-79-20:

1. Allow Reasonable Time For Upgrades
2. Provide Flexibility In Grant Application Requirements
3. Implement Incentive Based Compliance (Fleet Averaging / Best Available Control Technology (BACT))
4. Include a Small Business Phasing Plan

R.E. Staite Engineering, Inc. has participated in the review of the amendment process, provided information to CARB staff and has made reasonable suggestions for change. The Proposed Amendments will have a devastating impact on our company; R.E. Staite Engineering, Inc. will likely go out of business. **As a small business, we do not feel heard or understood.** Our suggestions have not been incorporated into the draft proposals, our company data has not been used in a way that we understand, and we have serious concerns about a majority of the data and assumptions used for parts of the analysis. The Proposed Amendments require unrealistic

2145 E. Belt Street, San Diego, California 92113 • phone: 619.233-0178 fax: 619.233.3706

3378.2

goals in the timeframe provided. For clarity, we have divided our response into four sections: I. Introduction/Background, II. Concerns, III. Solutions and IV. Conclusions. Appendix A has been provided with more detailed information that is referenced in our letter.

I. INTRODUCTION/BACKGROUND

The review process for the Proposed Amendments was initiated at the beginning of the pandemic in March 2020. Many, if not all of the companies affected by the CHC Proposed Amendments were struggling to keep their doors open and employees working. In companies across the marine sector, all hands were on deck and devoted to keeping crews safe and making adjustments to the workplace. To date, the pandemic is still an issue in California. Business is not “back to normal” yet. The fact that the CARB Board is not meeting in person is just one example of that.

As an industry we have tried diligently to gather information, meet with CARB Staff and elected officials to explain our situation and ultimately try to decide what the potential impact the Proposed Amendment will have on our businesses. The majority of us that are impacted by the regulations are not scientists, economists or health professionals. We are contractors, fishermen and maritime service providers. The majority of us do not have lobbyists or lawyers to spend time on the analysis and data review. Most of us have spent a considerable amount of time just trying to understand what is being proposed and how it affects our fleets, making sure that we are heard and understood, and that regulations can be implemented in a reasonable manner that allow us to both protect the health of Californians and stay in business.

A. OUR COMPANY

R.E. Staite Engineering, Inc. (RES) is a small, family owned, marine construction business that has been in business for over 80 years, since 1938. RES is headquartered in San Diego. Our office, yard and wharf are within the designated SB 535 Disadvantaged Communities and AB 1550 Low-Income Communities of Barrio Logan. RES works in San Diego, and along the west coast, with our fleet homeported in San Diego.

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 construction and repairs. The majority of our work falls under the construction and maintenance of essential infrastructure, which includes public works construction. 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. It is important to note that in order to maintain the designation, as a small business dredging contractor, our income must be \$30M or less (over a three year average).

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, Flexi-Float barge units and work boats. RES also maintains equipment for land-based construction that includes long reach excavators, cranes, forklifts and other ancillary equipment. It is a diverse spread of equipment that is subject to several CARB programs/regulations including Commercial Harbor Craft (CHC), In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation/DOORS), and the Portable Equipment Registration Program (PERP). All of these programs have different regulations, fees and tracking systems. RES has up-tiered 27 marine engines since the original

CHC regulations were implemented. Most of the engines have been up-tiered at our own expense. The majority of the engines in our fleet are Tier 2, 3 and 4.

As a small business contractor, RES has two current Multiple Award Construction Contracts (MACC) with the Navy, the first contract is the Indefinite Delivery Indefinite Quantity (IDIQ) Multiple Award Construction Contract (MACC) For New Construction, Repair, And Renovation of Waterfront Facilities at Various Government Installations Located In California, Arizona, Nevada, Utah, Colorado, and New Mexico; RES is one of eight marine contractors in this MACC. The second contract is the Waterfront Multiple Award Contract (WF MACC) for Naval Facilities Engineering Command (NAVFAC) Northwest Area of Responsibility; RES is one of eight marine contractors in this MACC. These contracts are multi-award, multi-year contracts for new construction, repair and maintenance of Naval infrastructure. Between the two contracts work can occur along the west coast between the borders of Mexico and Canada and stretch into the interior states. As part of our obligation, we identified equipment that was ready and available. The CHC Proposed Amendments put us in jeopardy of not having equipment available to fulfill our potential contracts.

II. OUR CONCERNS

We are concerned that the CHC Proposed Amendments are not feasible or cost effective in meeting the goals and values established by Executive Order N-79-20. R.E. Staite Engineering, Inc. has identified issues with safety, data validation, health, feasibility, environmental, financial and small business in the supporting documents that have been provided along with the Proposed Regulations. RES has summarized our concerns below and have provided examples of specific issues attached in Appendix A.

- A. **Safety** - It has not been demonstrated to the industry that the new technology is safe in the proposed applications, therefore, **the CHC Proposed Amendments as drafted are not feasible or cost effective.** 3378.3
- B. **Data Validation** -The data provided to justify the Proposed Amendments may be faulty and is not representative of the industry making **the CHC Proposed Amendments as drafted not feasible or cost effective.** 3378.4
- C. **Health** - Without an accurate count of vessels and a solid understanding of how emissions are generated at each port, the impacts on health cannot be quantified, thus, **the CHC Proposed Amendments as drafted are not feasible or cost effective.** 3378.5
- D. **Feasibility**- There is not a “one-size fits all” solution to CHC emission reduction. Because the technology required does not exist and the costs cannot be quantified in a manner that allows companies to plan for the impacts, **the CHC Proposed Amendments as drafted are not feasible or cost effective.** 3378.6
- E. **Environmental** -The conclusion that the environmental impacts could be “Less Than Significant or Potentially Significant and Unavoidable” is not acceptable. There is not enough verifiable information in order to approve the Draft Environmental Analysis (EA). The Draft EA should be denied and as such, **the CHC Proposed Amendments as drafted are not feasible or cost effective.** 3378.7

F. Financial -The costs of implementation are impractical without significant assistance in the form of grants and other funding relief in order to meet the timeline goals of the Executive Order N-79-20. For this reason, **the CHC Proposed Amendments as drafted are neither feasible or cost effective.** 3378.8

G. Small Business - The impacts on small business are unacceptable. The only way for a small company to survive is to pass the upgrade costs on to future clients. If a small business cannot do that in a reasonable manner they will go out of business. A plan that does not make accommodations for small business is not a working plan for California, and **the CHC Proposed Amendments as drafted are not feasible or cost effective.** 3378.9

For reasons related to safety, data validation, health, feasibility, environmental, financial and small business, the CHC Proposed Amendments should not be implemented as drafted and are NOT FEASIBLE OR COST EFFECTIVE.

III. SOLUTIONS

A. ADDITIONAL TIME FOR UPGRADES

Our most pressing concern with the Proposed Amendments is that there is not enough time or funding available and dedicated to have all of our engines up-tiered to Tier 3 or 4 plus a diesel particulate filter (DPF) by the proposed compliance dates. The compliance dates are unattainable and unrealistic for our small business.

The marine industry, and R.E. Staite in particular, have made significant good faith investments in upgrading vessels to meet the current CHC regulations. Since the initial CHC regulations were adopted in 2008, the industry has had time to plan for improvements, industry has had technology that was known and available for installation, and industry was told that once the changes were made that we would be in compliance, allowing the industry to amortize the upgraded equipment over a longer period of time. Even with time and technology on our side, it has not been an easy task. We have replaced 27 of our engines, most at our own expense. Our equipment has been repowered with the majority of our engines upgraded to Tier 2 and Tier 3. We have some Tier 4 engines and also some engines that are registered as low use. To comply with the CHC Proposed Amendments means starting over with repowering our fleet. In order to repower our fleet we will need time to:

 3378.10

- Research Equipment Options
- Perform Marine Architecture Studies
- Schedule Vessels for Dry Dock
- Plan for Funding / Obtain Loans
- Apply for Grants
- Plan for Work and Equipment Availability

Repowering a marine engine is not a small task All of the tasks identified above are substantial and will take time to complete before an engine can be repowered and be back in service. Compliance with Executive Order N-79-20 is NOT FEASIBLE AND NOT COST EFFECTIVE.

B. GRANT FLEXIBILITY

The reference materials and Standardized Regulatory Impact Assessment (SRIA) all note that grant funding is available, but based on the criteria for grant eligibility, R.E. Staite may not be able to take advantage of the funding, leaving a large amount that must be self-financed. It should be noted that most grants also require that projects be funded up front by the Owner and then reimbursed when the project has concluded.

3378.11

We appreciate the opportunity for funding to offset some of the costs we will incur. If there is a way to allow CARB Staff more discretion to approve requests for waivers/variances when there is a benefit to the public (improved emissions), it may allow for more projects to be completed in an accelerated fashion without actually changing the grant criteria or programs.

R.E. Staite Engineering, Inc. strongly supports the recommendations suggested by the San Luis Obispo County Air Pollution Control District Board (letter from SLO APCD dated October 5, 2021) in order to promote more meaningful grant opportunities:

“For the vessels with new regulatory replacement schedules where engine replacement is feasible, we have the following regulatory recommendations:

- 1. Add compliance flexibility to the CHC Regulation for coastal areas that are in federal attainment for ambient air quality standards, similar to the flexibilities provided in the CARB “In-use On-road and Off-road” Regulations.*
- 2. Any new replacement compliance dates should be set at least eight years from the effective date of the regulation, and not sooner than December 31, 2030, so air districts can provide meaningful grant funding for vessels with new regulatory schedules;*
- 3. The replacement schedules should factor in time needed for engine manufacturers to complete the development and deployment of additional Tier 4 engines and DPFs, and the certification of these new technologies by CARB, the U.S. Coast Guard, and if necessary, Cal OSHA; and*
- 4. The replacement schedules should allow flexibility for possible delays in Tier 4 and DPF deployment due to delays in production, certification, or industry limitations in repower specialists. “*

In addition to the suggestions above, R.E. Staite would also encourage the ability to “grant stack” – being able to add several funding sources together in order to create a larger funding source for the more costly upgrades in our fleet. As the grant packages stand, it is difficult to piece together enough money to do one engine, let alone a whole fleet.

Based on the number of vessels that have to be repowered or purchased, reducing the matching fees a company would have to contribute would also get more vessels upgraded and in compliance in a faster timeframe. Some grant programs allow Government funding of 100%. Allowing 100% funding for the private industry as an incentive for targeted projects or targeted areas, such as Disadvantaged Communities (DACs) would put the focus on problem areas and assist with swifter implementation.

C. IMPLEMENT INCENTIVE BASED COMPLIANCE (FLEET AVERAGING / BEST AVAILABLE CONTROL TECHNOLOGY (BACT))

The compliance tables in the CHC Proposed Amendments require that engines be replaced based on their model year. This does not give a company any discretion, other than using a low

use waiver, to decide when equipment should be upgraded or taken out of the fleet for improvements. In our case, just based on model years, we will have two of our largest tug boats, the workhorses of our fleet, needing to be dry-docked the same year. Basing upgrades on engine model years does not afford an Owner any control over his assets or his ability to use his owned equipment as an advantage when bidding projects. RES is located within a Disadvantaged Community (DAC), which further penalizes our company by slashing low use hours by half of other vessels in other parts of the state. An incentive-based compliance system would be welcome.

3378.12

D. CARB Off-Road Diesel Program (DOORS)

CARB has another program that has a similar goal of removing the dirtiest engines out of circulation under its Off-Road Diesel program. The Off-Road Diesel program uses a method called fleet averaging and Best Available Control Technology (BACT). The DOORS program (the name of the Off-Road compliance program) allows companies to meet a fleet average each year. If they are not able to do that, they are responsible for meeting a Best Available Control Technology (BACT) target. The average and the target are reduced each year until the goal is met at the end of the compliance period. The fleet averaging/BACT allows a company to strategically phase their replacements so that if you need to keep an older engine running, you can, BUT, but you may have to make other choices about vessel upgrades to offset that choice, such as upgrading another (or several) vessels to Tier 4 technology, or perhaps retiring a vessel so that you meet your average or target each year. BACT credits are awarded for early compliance and those credits can also be used to phase in the other vessels. This program has different target dates for large, medium and small companies, so that the less horsepower a company has, the longer the compliance period, acknowledging that different sized companies have different thresholds for sustainability. The result of using fleet averaging/BACT is the same as using a compliance table, but in a way that allows a company more control over how it is accomplished.

E. SMALL BUSINESS PHASING

The proposed regulations make no concessions for a small business to remain competitive with the larger companies. In fact, the way the compliance is set up, the small businesses will likely be the first to go out of business. As suggested Section III-D above, allowing for a small / medium / large category for business size based on total CHC horsepower along with the fleet averaging / BACT compliance methods would allow for small businesses to upgrade to cleaner technology while still remaining competitive.

IV. CONCLUSION

R.E. Staite Engineering, Inc. has been an engaged partner in the review of the Proposed Amendments to the current CHC regulations. We have provided information about our company, identified our concerns and have proposed reasonable solutions. As an important company in the construction, repair and maintenance of marine infrastructure and waterways, we expect to be heard and our solutions considered. We are a small company trying to survive and evolve with change. We ask that we be treated with consideration and respect and that the Board and Staff engage with us to come to a more workable solution than the one this has been proposed. That includes:

1. Allowing Reasonable Time For Upgrades
2. Providing Flexibility In Grant Application Requirements
3. Implementing Incentive Based Compliance (Fleet Averaging / Best Available Control Technology (BACT))

4. Including a Small Business Phasing Plan

Many representatives in our industry have participated in the review process as well. R.E. Staite Engineering, Inc. fully supports the statements and requests submitted by other companies and representatives of our industry specifically The American Waterways Operators (AWO), the Pacific Merchant Shipping Association (PMSA), the Sportfishing Association of California (SAC), the Truck and Engine Manufacturers Association, the San Diego Port Tenants Association as well as other industry representatives.

If the items identified by our company and others noted above are not considered and implemented, it is more than likely that our small maritime business will not be able to comply with the Proposed Amendments to the CHC regulations 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 and our company, please let us know how we can help. I can be reached at rayc@restaite.net or via phone at 619/233-0178.

Thank you for your consideration.

Sincerely,

R.E. STAITE ENGINEERING, INC.



R.A. Carpenter
President



Kristin Joseph
Estimating/Special Projects

Attachments:
Appendix A – Detailed List of Concerns

APPENDIX A – DETAILED LIST OF CONCERNS

<p>A. Safety It has not been demonstrated to the industry that the new technology is safe used in the proposed applications, therefore, the CHC Proposed Amendments as drafted are not feasible or cost effective.</p>		
<p><i>Is the Proposed Technology Safe?</i></p>	<p>Safety is our #1 concern. Heavy marine construction is inherently dangerous. We have been tracking many of the issues manufacturers have been having with their Tier 4 marine equipment. We understand that there has been some communication with the Coast Guard related to the safety issues of the proposed technology. Before a regulation is approved, it is important that the safety concerns be shared with all stakeholders. Allowing more time for implementation allows more time for safety trials and testing. 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. Allowing more time for safety is a must.</p>	3378.13
<p><i>Opacity Testing</i></p>	<p>We have concerns about the requirements and costs for opacity testing. Our tug boats are specially tuned for performance to provide the power, maneuverability, and braking necessary to operate safely while maneuvering heavy loads, towing equipment or operating in tight quarters. We agree with the American Waterways Operators conclusion that “Tuning the engine to minimize smoke during the transitional phase could compromise engine integrity when the operator needs maximum responsiveness to ensure safe operation.”</p>	3378.14
<p>B. Data Validation The data provided to justify the Proposed Amendments may be faulty and is not representative of the industry, making the CHC Proposed Amendments as drafted not feasible or cost effective.</p>		
<p><i>Number of Vessels</i></p>	<p>The number of CHC vessels has been a point of contention with the maritime industry since the Proposed Amendment was introduced. Appendix H, 2021 Update to the Emission Inventory for Commercial Harbor Craft: Methodology and Results details how CARB Staff determined their numbers, but does not address the numerous questions from the industry about possible discrepancies.</p> <p>The number of vessels is the basis for many of the studies and conclusions, particularly about health and environmental impacts. Until the number of vessels can be verified, the conclusions drawn in the Standardized Regulatory Impact Assessment (SRIA), Draft Environmental Analysis (EA) and the Staff Report: Initial Statement of Reasons (ISOR) regarding health outcomes may not be valid.</p>	3378.15

<p><i>Major Cost Inputs</i></p>	<p>R.E. Staite provided CARB Staff with proprietary data about the costs to upgrade our vessels to Tier 4 + DPF technology. We shared our rough order of magnitude information with the CARB Staff in one letter and an e-mail (October 30, 2020 and December 18, 2020), as well as what we thought an estimated loan would cost us if we had to obtain one for vessel upgrades. This information was incorporated into the Standardized Regulatory Impact Assessment (SRIA), Appendix A, Table II-A: Major Cost Inputs by CHC Category. It should be noted that our data was referenced on 17 pages of the SRIA and along with the California Maritime Academy (CMA) study and the Sause Bros (tug category), as a primary source of data for the major cost input for the following vessel categories: Push/Tow Tug category, the Dredge category, Other Barge category and Workboat category.</p> <p>We clearly stated that since we did not have any cost information or data for DPF, that the numbers were estimated and were rough order of magnitude. None of our notes regarding the numbers being estimates and rough order of magnitude numbers are noted in the document. It is inconceivable that such a small data set was allowed to be representative of these major vessel categories. Reviewing all the categories there appears to be very little industry participation. Since there is not adequate industry data provided in the study, the results are not representative of the true costs of the CHC Proposed Amendments.</p>	<p>3378.16</p>
<p><i>DPF Data</i></p>	<p>We question the numbers and the methods used to arrive at the Major Cost Inputs by Category in the SRIA. The data we provided included an estimate for a marine Tier 4 engine plus DPF. CARB staff deconstructed that estimate and arrived at a separate cost for the engine and a separate cost for the DPF. We communicated that it was highly unlikely that a company that had to upgrade an engine to a Tier 4 + DPF would upgrade the engine, then add the DPF in a separate transaction, but that is what the numbers seem to imply. The regulations should remain as is until there is actual technology and actual costs to attribute to the required changes.</p>	<p>3378.17</p>
<p><i>Replacement Costs</i></p>	<p>For the Push/Tow Tug category, the SRIA suggests that \$440/hp is adequate for replacement costs. For 3301 hp, that would equate to \$1,452,440 for the purchase of a push/tow tug replacement vessel. It would be enough to cover the replacement of a used tug with Tier 1 engines, but not even close to the \$8M - \$10M a new small tug (60' or less) might cost, not to mention the time to build the new tug and the lost revenue waiting for the replacement. We question the results of the analysis in the SRIA as they relate to replacement costs. A larger tug may cost \$15M - \$18M to purchase new. The replacement costs need to be reviewed again with more industry input.</p>	<p>3378.18</p>

<p>C. Health Without an accurate count of vessels and a solid understanding of how emissions are generated at each port, the impacts on health cannot be quantified, thus, the Proposed Amendment as drafted is not feasible or cost effective.</p>		<p>3378.19</p>
<p><i>Verification of Vessel Data</i></p>	<p>The verification of the vessel data as mentioned above is critical in estimating health benefits or declines from CHC emissions.</p>	<p>3378.19</p>
<p><i>Comprehensive Emissions/</i></p>	<p>To our knowledge, there is not a comprehensive health study that specifically identifies CHC emissions as the highest source of pollutants that impact health. In San Diego in particular, there are a variety of pollution sources such as the</p>	<p>3378.20</p>

<p><i>Health Study</i></p>	<p>Highway 5 freeway and car and truck traffic that run through the neighborhoods adjacent to the Port that likely contribute to the impact on health in the immediate area in addition to marine vessels. It is recognized that everyone benefits from reduced emissions, but the drastic measures that are being targeted at CHC vessels is not the whole solution to the issue. It has been acknowledged that each port in California is unique and may have other contributing factors to emissions besides CHC. We would like to see a study done that looks at all of the sources of pollution that contribute to health impacts before regulations are changed. We would like a study of each port and the contributing emission sources so that a better picture of CHC emissions can be generated and solutions can be created that are in proportion to the pollution.</p>	<p>3378.20 (cont.)</p>
<p><i>Question Health Benefits</i></p>	<p>Page 5 of the Public Notice reads (underline ours for emphasis): <i>“The Proposed Amendments are expected to improve California residents’ health benefits, especially those in communities located near California’s seaports and marine terminals. Many of these communities are disadvantaged and bear a disproportionate health burden due to their close proximity to emissions from CHC (at dock, and in transit) and other emission sources including trucks, locomotives, and terminal equipment serving the seaports. These improvements in health benefits are anticipated to include reductions of 531 premature deaths reduced, 73 hospital admissions for cardiovascular illness, 88 hospital admissions for respiratory illness and 236 emergency room visits. The total statewide valuation due to avoided health outcomes between 2023 and 2038 totaled \$5.25 billion.”</i></p> <p>We agree that any improvement in someone’s health or preventing a premature death is very important, however, the numbers referenced above are shockingly small for a time span of 15 years that covers the entire state of California. We question the results, are the gains really that small?</p>	<p>3378.21</p>

<p>D. Feasibility There is not a “one-size fits all” solution to CHC emission reduction. Because the technology required does not exist and the costs cannot be quantified in a manner that allows companies to plan for the impacts, the CHC Proposed Amendments as drafted are not feasible or cost effective.</p>		
<p><i>Technology Required in Proposed Amendment Does Not Exist for Tier 4 Marine Applications</i></p>	<p>Is the Proposed Amendment feasible? Much of technology that is being required does not exist. Contractors like certainty in a very uncertain business. We review historical data, track trends and try to base our estimates on what we know to be true. In this case we are guessing about the costs, we are not sure about how the technology will integrate with our vessels and are very uncertain about the safety of the applications. We do not have the opportunity to see how the technology is applied in a real world situation. We can’t ask questions of the installers or colleagues in the industry, because no one else has the technology either. It is not tested or vetted. As of February 2021, there is one possible verified level 3 DPF. Page E-42 of Appendix E, Technical Support Document and Assessment of Marine Emission Control Strategies, Zero-Emission, and Advanced Technologies regarding CARB Verified Level 3 VDECS (DPFs) states the following (underline for emphasis, ours):</p>	<p>3378.22</p>

	<p><i>“As of February 2021, CARB has verified a variety of devices for various sectors including on/off-road, stationary, transportation refrigeration unit (TRU), auxiliary power unit (APU), cargo handling equipment, and marine applications.⁶³ <u>There is one verified device for marine applications, the Rypos ADFP...</u> Success of possible retrofit requirements is contingent upon the technology developers applying for and receiving verification from CARB for their diesel emissions controls strategies (DECS). There are currently three established companies who are interested in submitting their products for CARB verification. The number of options for retrofits should increase as requirements for DPFs are adopted and more products penetrate the market.”</i></p> <p><i>It should be noted that a Tier 4 DPF for marine application is not on the market. In the timeframe proposed for compliance, it would be foolish to retrofit your vessel with a Tier 4 engine and then install a DPF in a separate transaction. The loss of time in installation and the increase in cost would not be justified.</i></p>	<p>3378.22 (cont.)</p>
<p>CMA Study & Compliance Options</p>	<p>Page 42 – 44 of Appendix E, Technical Support Document and Assessment of Marine Emission Control Strategies, Zero-Emission, and Advanced Technologies, California Maritime Academy Feasibility Study indicates the following (underline ours for emphasis):</p> <p><i>“CARB commissioned the California State University Maritime Academy (CMA) to evaluate the feasibility of repowering and retrofitting in-use harbor craft with Tier 4...The overall conclusion from the study is that there are a number of feasible compliance options for a broad range of different CHC types evaluated. However, because many vessels have unique designs, no assumptions can be made about the technological feasibility regarding a specific vessel without a thorough analysis of its design to determine what engine and after treatment options are available. In some cases where changes are required to a vessel’s structure, the repower project will require a design review by a naval architect to ensure the modifications will not negatively affect the vessel’s stability or seaworthiness. <u>The technological capability of repowering with engines and aftertreatment to meet the Tier 3 or 4 + DPF emissions performance standard is dependent on many variables and must be thoroughly evaluated on a case-by-case basis for every vessel.</u> Therefore, CARB staff used the study to evaluate the likelihood of a vessel needing to be replaced to meet the proposed emissions performance standard in the cost and economic analyses, and in developing the Proposed Amendments.”</i></p> <p><i>There is not a “one size fits all solution” to upgrading vessels. Owners need time to evaluate options when they are available on the market in order to decide what is the best approach in terms of safety, feasibility and practicality for each company. It has been noted that there are compliance extensions available if the technology is not available within the compliance timeframe.</i></p>	<p>3378.23</p>

	<p>The extensions may keep a fleet in compliance, but they still do not allow adequate time for analysis and installation once the technology is available. Once the technology is available, there is a year for installation once the product comes on the market. That is not enough time to come up with funding or installation arrangements.</p>	<p>3378.23 (cont.)</p>															
<p><i>Low Use Compliance is Not Feasible for Operators in DAC</i></p>	<p>The CHC Proposed Amendments allow for a low use compliance pathway, however, if a company is within an area of Disadvantaged Communities (DAC) the low-use compliance thresholds would be half of other areas of the State. This puts Owners in these areas at a huge disadvantage in terms of competing for business and being able to take advantage of low use options. It becomes very impractical to maintain a marine vessel every year for only half of the allowable hours of use. A pre-tier 1 engine could be used 40 hours, just barely a week of work. This is definitely not a compliance pathway that is cost effective or practical.</p> <table border="1"> <thead> <tr> <th>Engine Tier</th> <th>Pre-Tier 1</th> <th>Tier 1</th> <th>Tier 2</th> <th>Tier 3 or 4</th> </tr> </thead> <tbody> <tr> <td>DACs (hours/year)</td> <td>40</td> <td>150</td> <td>200</td> <td>350</td> </tr> <tr> <td>All Other Areas (hours/year)</td> <td>80</td> <td>300</td> <td>400</td> <td>700</td> </tr> </tbody> </table>	Engine Tier	Pre-Tier 1	Tier 1	Tier 2	Tier 3 or 4	DACs (hours/year)	40	150	200	350	All Other Areas (hours/year)	80	300	400	700	<p>3378.24</p>
Engine Tier	Pre-Tier 1	Tier 1	Tier 2	Tier 3 or 4													
DACs (hours/year)	40	150	200	350													
All Other Areas (hours/year)	80	300	400	700													

<p>E. Environmental The conclusion that the environmental impacts could be “Less Than Significant or Potentially Significant and Unavoidable” is not acceptable. There is not enough verifiable information in order to approve the Draft Environmental Analysis (EA). The Draft EA should be denied and as such, the CHC Proposed Amendments as drafted are not feasible or cost effective.</p>		
<p><i>Please Review Section IV. Impact Analysis and Mitigation Measures , Section 3, Air Quality of the Draft Environmental Analysis (EA)</i></p>	<p>A thorough review of Section IV. Impact Analysis and Mitigation Measures , Section 3, Air Quality of the Draft Environmental Analysis needs to be completed. Environmentally this is probably the most important section of the Draft Environmental Assessment and there are statements throughout the document that several modeling options are not available and that in many cases it is not possible to predict improvements regarding air quality. The sentences below are out of context, but are not meant to be misleading, only illustrative of the difficulties of pin-pointing air quality gains or degradations.</p> <p><i>Page D-37: “It is not possible to predict exactly where project related improvements would occur or what each project would involve.”</i></p> <p><i>Page D-38: “The ability for CARB staff to correctly estimate the location, amount, and types of projects which could occur in response to increased vessel repowers and new builds, has been determined to be too speculative for a thorough evaluation.”</i></p> <p><i>Page D-39: “Therefore, modeling emissions associated with the manufacturing and delivery of marine vessels is not possible. For calculating increased emissions associated with vessel repowers and new builds, the industry standard CalEEMod is thus not a viable modeling option.”</i></p>	<p>3378.25</p>

	<p><i>Page D-43 “However, the exact location and magnitude of specific health impacts that could occur as a result of project-level construction-related emissions in specific air basins is infeasible to model with any degree of accuracy with the level of information known about the Proposed Amendments.”</i></p>	<p>3378.25 (cont.)</p>
<p><i>Are Impacts Less Than Significant Or Potentially Significant And Unavoidable?</i></p>	<p>The following statement repeats throughout the Draft Environmental Analysis (example taken from EA pg D-27):</p> <p><i>“Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if they approve these potential projects.</i></p> <p><i>Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation measures imposed by the land use and/or permitting agencies acting as lead agencies for these individual projects under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this Draft EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related and long-term operational impacts to aesthetics associated with the Proposed Amendments would remain potentially significant and unavoidable.”</i></p> <p><i>Are impacts less than significant or potentially significant and unavoidable? While we understand the limits of authority to impose mitigation, the EA should provide more direction in terms of environmental impacts of the Proposed Amendments.</i></p>	<p>3378.26</p>
<p><i>Selling Vessels Out of State</i></p>	<p>The Page D-13 of the Draft Environmental Analysis states:</p> <p><i>“CARB staff predicts most retired vessels would be sold out of state, not scrapped. Based on preliminary conversations with industry leaders, CARB staff expects many vessels to be sold or moved to other states or countries on the North American West Coast. Larger, more costly, or other specialty vessels could be sold and transferred to regions around the globe.”</i></p> <p><i>Our understanding of the Proposed Amendments are to reduce emissions in order to improve the health of those in impacted polluted areas. By selling vessels out of state, the problem would just be shifted elsewhere. Emissions may be reduced in California, but the impact to global warming would remain. In addition, most areas that have maritime commerce already have vessels.</i></p>	<p>3378.27</p>

	<p>A glut of used vessels flooding the out of state market would drive down pricing, leaving owners with a fraction of the value to offset new vessel purchases or repowers in California. As much as we would like to be able to sell our assets somewhere else to offset new vessel costs, this solution seems contrary to the spirit of the regulations.</p>
--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

3378.27
 (cont.)

<p>F. Financial The costs of implementation are impractical without significant assistance in the form of grants and other assistance in order to meet the timeline goals of 2035. For this reason, the CHC Proposed Amendments as drafted are not feasible or cost effective.</p>	
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

<p><i>Costs Analysis Inputs Are Not Representative of the Industry</i></p>	<p>Appendix A of the SRIA, Cost Analysis Inputs and Assumptions for Standardized Regulatory Impact Assessment should be reviewed thoroughly. There are very few industry stakeholders referenced in the analysis. The primary source of information seems to be the California Maritime Academy study for all vessel categories with 1-2 industry contacts (including RES) that have shared company costs, which is hardly representative of the industry as a whole. See Section B Data Verification Above.</p>
----------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

3378.28

<p><i>R.E. Staite Engineering, Inc. Estimated Costs</i></p>	<p>R.E. Staite Engineering, Inc. estimated our up-tier costs based on the difference between a Tier 3 engine quote and a Tier 4 engine quote we had received from a vendor as we were preparing a grant for one of our tug boats. A DPF for the marine engines we are looking at is not available, so the DPF cost that we provided to CARB Staff was estimated. Our ESTIMATED, ROUGH ORDER OF MAGNITUDE costs to up-tier all of our engines is approximately \$12 million dollars, assuming we are not purchasing new vessels. Seven of the engines would need to be up-tiered by 2024. The remainder of the engines are spread between 2024 and 2030 with another larger cluster that would need up-tiering in 2028. We are already too late to apply for Carl Moyer funding for the 2024 engines as we need a three-year window between the grant application and when the compliance is mandatory.</p>
-------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

3378.29

<p><i>Administrative Fees</i></p>	<p>The administrative and compliance fees are extraordinary. The first year of fees for our company is estimated to be at least \$23,004 and could be as much as \$91,904+. Note that the fees and compliance estimates were derived from the SRIA. Some of the fees such as opacity testing, record keeping and reporting may be more or less depending on the actual amount of time expended or the service provider used. The "Possible Additional Costs" would apply if we request a compliance extension (the amount noted would be for one vessel, the number would increase if we needed additional reports). It is not clear if the \$7500 regulation interpretation costs identified as a possible cost in the SRIA would be charged the first year of implementation. Added together, the total potential cost the first year is \$91,904. It is acknowledged that this number could be much less if we do not request a compliance extension for any of the vessels, but is should also be noted that it is possible this number could be much more if we request extensions for several vessels. These fees and costs could better be put towards upgraded engines and reducing emissions.</p>
-----------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

3378.30

	<p>Administrative Fees – First Year</p> <table border="0"> <tr> <td>Annual Fee / Vessel</td> <td>\$486 / vessel</td> </tr> <tr> <td>Annual Fee/ Engine</td> <td>\$396 / engine</td> </tr> <tr> <td>Record Keeping & Reporting</td> <td>\$200 / assumed</td> </tr> <tr> <td>Vessel Labeling (Est Every 5 Years) to replace</td> <td>\$150 / assumed every 5 years</td> </tr> <tr> <td>Opacity Testing / Biennially</td> <td>\$200 / assumed cost, biennially</td> </tr> <tr> <td>Total Cost Based On Engines/Fleet Size</td> <td>\$23,004</td> </tr> </table> <p>Possible Additional Costs</p> <table border="0"> <tr> <td>Regulation Interpretation Costs</td> <td>\$ 7,500*</td> </tr> <tr> <td>Naval Architect Report</td> <td>\$61,000**</td> </tr> <tr> <td>Financial Feasibility Reports (Compliance Extensions)</td> <td>\$ 400**</td> </tr> <tr> <td>Total Estimated</td> <td>\$68,900</td> </tr> </table> <p>Estimated Possible Fees and Compliance Costs – First Year 2023 \$91,904</p> <p><i>*SRIA pg 95 - Staff assumes this would be a one-time cost per fleet occurring in 2023, and represents administrative time needed to understand the regulation during the first year the Proposed Amendments would be in effect. Staff assumed a per-fleet cost of \$7,500 which represents 100 personnel hours with a personnel hour cost of \$75.</i></p> <p><i>**SRIA pg 93 - Staff assumed that the cost of a Naval Architect Report would be approximately \$61,000, and the cost of a Financial Feasibility Report would be \$400.</i></p>	Annual Fee / Vessel	\$486 / vessel	Annual Fee/ Engine	\$396 / engine	Record Keeping & Reporting	\$200 / assumed	Vessel Labeling (Est Every 5 Years) to replace	\$150 / assumed every 5 years	Opacity Testing / Biennially	\$200 / assumed cost, biennially	Total Cost Based On Engines/Fleet Size	\$23,004	Regulation Interpretation Costs	\$ 7,500*	Naval Architect Report	\$61,000**	Financial Feasibility Reports (Compliance Extensions)	\$ 400**	Total Estimated	\$68,900	<p>3378.30 (cont.)</p>
Annual Fee / Vessel	\$486 / vessel																					
Annual Fee/ Engine	\$396 / engine																					
Record Keeping & Reporting	\$200 / assumed																					
Vessel Labeling (Est Every 5 Years) to replace	\$150 / assumed every 5 years																					
Opacity Testing / Biennially	\$200 / assumed cost, biennially																					
Total Cost Based On Engines/Fleet Size	\$23,004																					
Regulation Interpretation Costs	\$ 7,500*																					
Naval Architect Report	\$61,000**																					
Financial Feasibility Reports (Compliance Extensions)	\$ 400**																					
Total Estimated	\$68,900																					
<p>Questions About Fees and Costs</p>	<p>We have questions about the fees and costs that we will incur.</p> <ul style="list-style-type: none"> • Why are there separate fees per vessel and per engine? Why not a single fee per vessel? • Why is there no cap on the fees per company? • Why is there not a sliding scale for company size? • Why is opacity testing every two years? Why not a baseline test and a final test at the end of the program? • Will there be a \$7500 regulation interpretation fee imposed in 2023? This is a large sum of money and should already be factored into the annual fees for program implementation. • Vessel labeling – why do it? As one of our colleagues noted in previous correspondence, each CHC vessel has a unique identifying number already assigned (COR #, CDF#, IMO). Why add another along with its associated costs? The \$150 fee for the label is not the only cost that would be associated with that fee. Labor would be involved in ordering and affixing the label, likely doubling the cost and time taken to implement the requirement. • Will any of the fees be put towards a more efficient tracking system? Right now reporting is very cumbersome. The DOORS (Off-Road Diesel Program) program has a electronic system that is much easier to use and keep information current and track compliance, we would suggest using the same system. 	<p>3378.31</p>																				

<p><i>Construction and Modification of Vessels Out of State</i></p>	<p>The following statement was made on page D-2 of the Draft EA:</p> <p><i>“Construction and modification of vessels would likely occur both inside and outside of California. As outlined in Section IV.E of Appendix E to the ISOR, CARB staff performed a survey of existing shipyards in California, Oregon, and Washington, which confirmed there is sufficient capacity to repower, retrofit, and build new vessels in response to the Proposed Amendments. The survey identified capacity for 23 percent of repowers and retrofits (82 out of 353 repowers per year), and capacity for 73 percent of new ship builds (72 out of 98 new builds per year) in either Oregon or Washington. Therefore, the majority of new vessel builds are expected to occur outside of California. This may be particularly likely because labor can be cheaper in other states.”</i></p> <p>Why are we not planning for these retrofits and new vessels to occur in California? We thought the idea was to create jobs and strengthen California’s economy. Aside from jobs, the cost to mobilize a vessel to Oregon or Washington is prohibitive. For example, when estimating costs for a tug boat repower in the San Francisco Bay Area, the cost to transit our tug boat between San Diego and Alameda was between \$40,000 - \$50,000. Double that or 4x that for a trip to Oregon or Washington.</p>	<p>3378.32</p>
<p><i>Mitigation Costs Identified in the Draft EA</i></p>	<p>EA Mitigation 3-1</p> <p>The costs of mitigation measures associated with construction projects related to the Proposed Amendments have not been incorporated into the SRIA. While the EA states that CARB does not have the jurisdiction to impose mitigation measures, any mitigation that is approved by a responsible agency will have a financial impact and should be included in the overall costs for the Proposed Amendments.</p>	<p>3378.33</p>

<p>G. Small Business</p> <p>The impacts on small business are unacceptable. The only way for a small company to survive is to pass the upgrade costs on to future clients. If a small business cannot do that in a reasonable manner they will go out of business. A plan that does not make accommodations for small business is not a working plan for California, and the CHC Proposed Amendments as drafted are not feasible or cost effective.</p>		
<p><i>Impacts on Small Business</i></p>	<p>Page IX-6 of the Staff Report: Initial Statement of Reasons (ISOR) states the following as it relates to Small Business:</p> <p><i>Creation or Elimination of Businesses</i></p> <p><i>The Proposed Amendments do not directly result in business creation or elimination. However as discussed in Chapter E of the SRIA, changes in outputs of different sectors might indicate the creation or elimination of businesses in the State.</i></p> <p><i>Based on the modeling of output changes, many sectors, such as shipyards and ship and boat building industry may experience an increase in output which may result in the creation of new businesses.</i></p>	<p>3378.34</p>

	<p><i>Industries that operate CHC would face costs and see net decreases in output growth and employment. Some of these businesses are large and would not be anticipated to face business elimination. However, many are small businesses and may face substantial compliance costs. If these businesses are unable to pass on the costs of the Proposed Amendments to customers or if there is a significant change in demand for services, it is possible that some businesses would be eliminated.</i></p> <p>It would be extremely difficult to pass costs to our clients. We have an estimated \$12M of potential expenses (assuming we have all re-powers, the cost is significantly more if we have to purchase new vessels). If we spread that cost over the projects that we bid, we would likely not be very competitive, reducing our volume of projects each year which translates to reduced profits and income to spend on repowers or new purchases.</p>
<p><i>Reasonable Alternatives to Lessen the Impact on Small Business</i></p>	<p>Page X-6 of the Staff Report: Initial Statement of Reasons (ISOR) states the following as it relates to Small Business:</p> <p><i>Small Business Alternative</i> <i>The Board has not identified any reasonable alternatives that would lessen adverse impact on small businesses while still achieving necessary emission reductions.</i></p> <p>Small business is a vital part of the California economy. Small businesses are a small percentage of the marine construction sector. R.E. Staite has suggested several reasonable solutions(Section III) that would reduce the impact on small business. Making concessions for small business based on size of fleet, amount of horsepower in fleet or number of employees would improve the potential outcome for some businesses if the Proposed Amendments are approved.</p>

3378.34
 (cont)

3378.35

Comment Log Display

Here is the comment you selected to display.

Comment 19 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name Floyd

Last Name Vergara

Email Address FVergara@cleanfuels.org

Affiliation Clean Fuels Alliance America

Subject Clean Fuels and CABA Comments on CHC2021 (Commercial Harborcraft Rulemaking)

Comment

Please consider the enclosed comments with regard to the proposed requirement for R99.

Attachment www.arb.ca.gov/lists/com-attach/3715-chc2021-B2RTOQdjAzFROQdY.pdf

Original File Name Clean Fuels Comments CARB Harborcraft 15-Day Hearing_March 24 2022 (FINAL V2).pdf

Date and Time Comment Was Submitted 2022-03-24 08:38:04

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

Board Comments Home



March 24, 2022

California Air Resources Board
1001 I Street
Sacramento, CA 95814

By Electronic Submittal

The Clean Fuels Alliance America (Clean Fuels)¹ and California Advanced Biofuels Alliance (CABA)² appreciate the opportunity to provide comments on the proposed Commercial Harborcraft rulemaking. Our comments reinforce the ones we submitted at the Board's November 2021 hearing (incorporated herein by reference)³. Clean Fuels and CABA have been longtime supporters of the state's overall climate and air quality improvement goals and have collaborated frequently with CARB staff toward achieving those goals.

We appreciate the staff's proposal to require a 99% renewable diesel fuel (R99) for all commercial harborcraft, which recognizes the many benefits of renewable diesel. However, we are strongly disappointed in the proposal's exclusion of biodiesel, another important drop-in replacement for petroleum diesel, and request the Board to direct staff to provide 15-day changes that would allow an 80% renewable diesel and 20% biodiesel blend (R80/B20) in addition to the current proposal that requires R99 exclusively.

3379.1

The rationale for allowing the use of R80/B20 blends is described in detail in the November 2021 joint comment letter we submitted (attached for your convenience). To summarize, allowing the use of R80/B20 provides numerous benefits that are substantially similar or superior to requiring R99 fuel exclusively, including:

- Both R99 and R80/B20 reduce GHGs by up to 79% or more
- Both fuels reduce NOx: R99 reduces NOx by about 11%, R80/B20 by about 10%
- Both fuels reduce particulates: R99 reduces PM by about 27%, R80/B20 by 29%.

¹ Clean Fuels is the U.S. trade association representing the entire supply chain for biodiesel, renewable diesel, and to a growing extent, sustainable aviation fuel.

² California Advanced Biofuels Alliance is a not-for-profit trade association promoting the increased use and production of advanced biofuels in California. CABA represents biomass-based diesel (BMBD) feedstock suppliers, producers, distributors, retailers, and fleets on state and federal legislative and regulatory issues.

³ See CABA and NBB joint comment letter, dated Nov. 15, 2021, at <https://www.arb.ca.gov/lists/com-attach/3620-chc2021-VjUHYANGAjBREVA+.pdf>.

Missouri Headquarters
605 Clark Ave.
PO Box 104898
Jefferson City, MO 65110

800.841.5849

Washington, D.C. Office
1331 Pennsylvania Ave., NW
Suite 505
Washington, D.C. 20004

888.246.3437

California Office
1415 L Street
Suite 460
Sacramento, CA 95814

916.760.8870

Massachusetts Office
36 Jonspin Road
Suite 235
Wilmington, MA 01887

978.267.3020

As we noted previously, both fuel blends achieve similar reductions in GHGs and NOx, but R80/B20 reduces diesel PM more than R99. This fact should be of strong interest to CARB and its efforts to improve the health of residents living in environmental justice (EJ) and disadvantaged communities, many of which are located in close proximity to ports that are served by large numbers of commercial harborcraft. As the Board is well aware, diesel PM is particularly harmful to human health, being the state's leading toxic air contaminant. Diesel PM exposure results in significant numbers of premature death, asthma attacks, work loss days, and cancer cases,⁴ among other health impacts.

3379.1
(cont.)

For the remainder of this letter, we want to address a number of misconceptions and misunderstandings on which the R99 proposal appears to have been based (as indicated in Staff Response to Comments 3196-1 and 3196-2).⁵

The Use of R80/B20 Does Not Increase NOx Emissions

The staff's first response to our recommendation to allow the use of R80/B20 was, "[t]he use of an 80 percent renewable diesel and 20 percent biodiesel (R80/B20) blend instead of the proposed blend of renewable diesel at 99 percent purity or higher (R99) *would increase NOx emissions.*" [emphasis added.] This is patently untrue, as evidenced by the next sentence in the response, which notes that "there wouldn't be as much of a NOx benefit [with R80/B20] as with R99." Not having as much of a benefit is vastly different than having an actual disbenefit (i.e., NOx increase), which the response initially states erroneously. Moreover, the added benefit of R80/B20 relative to R99 is the increased reduction in PM emissions, which was not addressed at all by the staff response and, as noted previously, is a benefit that should be particularly important for addressing EJ concerns.

3379.2

With Appropriate and Routine Maintenance, the Use of R80/B20 Would Not Result in Engine Performance Issues

To our knowledge, there is no empirical evidence that supports the performance claims noted in the staff report and staff response to comments in any of the reports and technical analyses in the rulemaking record. Instead, the staff's response to our recommendation recycles outdated and debunked misconceptions about biodiesel that are decades old. To illustrate, the response supports the performance issues claim by simply stating that "biodiesel also acts as a surfactant and in initial use in engines that have not used biodiesel (BD) previously, a lot of detritus can be released which can foul

3379.3

⁴ Trinity Consultants, which found in a 2021 study that reducing PM by switching to biodiesel in legacy vehicles and equipment at the Port of Los Angeles/Long Beach, West Oakland, San Bernardino, and South Fresno could reduce premature deaths by up to 230 per year, asthma cases by 149,000 per year, 31,000 fewer sick days each year, and achieve other health benefits, all totaling over \$2 billion per year in avoided health costs. See <https://www.biodiesel.org/news-resources/health-benefits-study>.

⁵ Response to Comments on the Draft Environmental Analysis, <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2021/chc2021/chcrtc.pdf>, at 334-335, accessed March 23, 2022.

filters and negatively affect engine performance." The response further states that "biodiesel in 20 percent concentrations or higher could result in engine performance issues due to the age of the existing CHC fleet and fueling systems, including fuel tanks, fuel links, and other ancillary components."

First, our recommendation was for R80/B20, not blends of biodiesel higher than 20 percent. Further, the use of biodiesel, along with renewable diesel and conventional petroleum diesel, requires the operator to follow the manufacturer's recommended practices, which generally call for regular maintenance and cleaning of fuel-related systems, including tanks. Moreover, the staff's response was based in large part on the 2006 National Renewable Energy Laboratory's (NREL) Biodiesel Handling and Use Guide (Third Edition), which was cited in the staff report as a key basis in support of these claims. This is notable since that version of the NREL Biodiesel Handling and Use Guide was 15 years old at the time the proposed rulemaking was released for comment, and it has been long superseded by at least two subsequent editions. The current Fifth Edition (2016) identifies no particular performance concerns unique to B20 storage in tanks, noting that for microbial contamination (a main driver for the concerns noted in the response), "[t]he best way to deal with this issue (*for both petroleum diesel and biodiesel*) is adequate fuel storage tank housekeeping and monitoring, especially minimizing water in contact with the fuel." [emphasis added.]

3379.3
(cont.)

It is important to note that biodiesel has been in use in California and the U.S. for a number of decades now. Under the state's Low Carbon Fuel Standard, the use of biodiesel has grown 19-fold, from a mere 14 million gallons in 2011 to about 270 million gallons in 2020 (and over 2 billion gallons in the U.S.). It is highly unlikely this sort of growth in biodiesel volumes would have occurred if fleet operators were experiencing broadly the types of issues cited in the response to comments (as CARB's own data shows, the use of B20 has been steadily growing in the state, outpacing the use of lower biodiesel blends).⁶

Biodiesel Generally Has Greater GHG Benefits than Renewable Diesel

Staff's response to comments supports the rejection of the R80/B20 recommendation, in part, by noting that "biodiesel does not necessarily have lower lifecycle GHG emissions than renewable diesel." While this statement is true on its face, it leaves out some important context. All things being equal, biodiesel production generally requires less energy than production of renewable diesel from the same feedstock, reflecting the simpler production process for biodiesel and the higher energy requirements for hydrotreating feedstocks to produce renewable hydrocarbon diesel. This difference typically confers biodiesel with a similar but lower carbon intensity (CI) score because of that reduced energy use.

3379.4

⁶ See Alternative Diesel Fuels Reporting Summaries, <https://ww2.arb.ca.gov/resources/documents/alternative-diesel-fuels-reporting-summaries>, showing that the percentage of B100 volumes blended into B20 has steadily grown from 18.9% in 2016 to 37.8% in 2020, while the share of lower biodiesel blends have decreased.

Moreover, the response leaves out the fact that low CI biodiesel pathways far outnumber low CI renewable diesel pathways. For example, according to CARB's own LCFS data,⁷ there are 59 certified fuel pathways for biodiesel and renewable diesel with carbon intensity scores of 25 or less (25 CI reflecting about a 75% reduction in GHGs relative to petroleum diesel). Of those 59, 54 are for biodiesel pathways (most made from used cooking oil), while 5 are for renewable diesel pathways. Notably, many of those 54 biodiesel pathways were certified by eight California-based producers, including New Leaf Biofuel in San Diego, Crimson Renewable Energy in Bakersfield, Biodico Westside in Five Points, and Imperial Western Products in Coachella. By excluding even the possibility of an R80/B20 blend being used in commercial harborcraft, the proposal would harm the ability of in-state biodiesel producers, along with the jobs and economic activity they support in California, to compete in this sector and benefit California residents with their lowest polluting diesel replacements.

3379.4
(cont.)

Conclusion

We applaud and support the state's efforts to aggressively address climate change, air quality, and environmental justice in a holistic manner. The staff's proposal to require R99 fuel exclusively is directionally correct but unnecessarily restrictive. To address this, we strongly encourage the Board to recognize the complementary properties of biodiesel and renewable diesel and allow the use of either an R99 fuel or an R80/B20 blend in commercial harborcraft through a 15-day change. This would allow an optimal blend of GHG, environmental, public health, and EJ benefits, along with better economic impacts for fleet operators and California biodiesel producers.

3379.5

Thank you for your consideration of these comments. We look forward to continuing our strong collaboration with California.

Sincerely,



Floyd Vergara, Esq., P.E.
Director of State Governmental Affairs
Clean Fuels Alliance America



Rebecca Baskins
Executive Director
California Advanced Biofuels Alliance

⁷ See Current Fuel Pathways, https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/current-pathways_all.xlsx, accessed March 23, 2022.



November 15, 2021

California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: CABA and NBB Comment Letter – Harbor Craft Regulation

The California Advanced Biofuels Alliance (CABA) and the National Biodiesel Board (NBB) appreciate the opportunity to comment on the Harbor Craft Regulation. While we applaud amending the regulation to include renewable fuels, we believe other drop-in fuel replacements, such as renewable diesel and biodiesel blends, should be an available alternative in the regulation.

CABA is a not-for-profit trade association promoting the increased use and production of advanced biofuels in California. CABA has represented biomass-based diesel (BMBD) feedstock suppliers, producers, distributors, retailers, and fleets on state and federal legislative and regulatory issues since 2006. The NBB is the U.S. trade association representing the entire biodiesel and renewable diesel value chain, including producers, feedstock suppliers and fuel distributors. As a drop-in fuel replacement for petroleum diesel, biodiesel and renewable diesel can help California achieve its carbon neutrality goals.

3379.6

While both fuels provide significant benefits on their own, blending the fuels together maximizes both the environmental and economic profiles of biodiesel and renewable diesel.

A California Air Resources Board (CARB) approved fuel¹, renewable diesel and biodiesel blends comprised of up to 20% biodiesel and 80% renewable diesel (R80/B20) will reduce emissions, perform higher and provide supply and cost benefits to California communities.

Compared to petroleum diesel, R80/B20 can not only reduce nitrogen oxides (NOx) by 10%, but also reduces total hydrocarbons (THC) by more than 20%, particulate matter (PM) by more than 40% and carbon monoxide (CO) by more than 25%.² The full suite of benefits provided by R80/B20 blends only enhances the emissions reductions renewable diesel and biodiesel can provide alone. As CARB is aware, PM has significant adverse impacts on human health, disproportionately so in disadvantaged/ environmental communities (DACs). Because biodiesel reduces PM substantially more than renewable diesel³, an important goal for the CHC regulation should be to maximize the amount of biodiesel used by commercial harbor craft while balancing the need for reducing other pollutants, such as NOx. This is especially critical for maximizing the regulation's health benefits to local DACs, many of which are sited

¹ https://ww2.arb.ca.gov/sites/default/files/2021-07/ADF_Regulation_5-3-21.pdf

² https://www.regi.com/docs/default-source/products/reg-18043_ultra_clean_diesel_fact_sheet_updated_2.pdf?sfvrsn=bcba8d1a_2

³ See Executive Summary, CARB Final Report, "Biodiesel Characterization and NOx Mitigation Study," Oct. 2011, https://www.arb.ca.gov/fuels/diesel/altdiesel/20111013_carb%20final%20biodiesel%20report.pdf.



near California ports or are otherwise subjected to emissions from coastal operations of harbor craft. A R80/B20 blend achieves this optimal balance of GHG, PM and NOx reductions while reducing costs for fleet operators.

Because renewable diesel offers increased cetane and biodiesel offers increased lubricity, blends of renewable diesel and biodiesel can increase engine life with better self-ignition and smoother-running engines.

While emissions benefits and engine performance are significant on their own, supply and price are at the forefront of consumer concerns. As the supply of renewable diesel is growing, biodiesel is currently available to help ease any supply concerns. Blending biodiesel into renewable diesel will also decrease the cost of renewable diesel alone, easing consumer concerns of availability and cost.⁴

There is no single solution to help California achieve its ambitious goals. Allowing blend alternatives (e.g. R80/B20), as well as R100 in the Harbor Craft Regulation, will help California achieve emission benefits immediately while the state pursues its decarbonization efforts, enhance local air quality in disadvantaged and EJ communities near ports and waterways, and ease any potential cost and supply concerns. We ask that such blends be incorporated into the amendments through a 15-day rulemaking public process. This will also provide an opportunity to clarify and correct the technical basis for this rulemaking; it appears that the proposed amendments excluding the use of biodiesel are premised on inaccurate information regarding biodiesel, and we would be happy to work with CARB staff to correct the rulemaking record.⁵

We thank CARB staff for their work on this important matter and look forward to collaborating with you. Please feel free to contact us if any questions should arise.

Sincerely,

Trent Trawick
Chair
California Advanced Biofuels Alliance

Floyd Vergara
Director of State Governmental Affairs
National Biodiesel Board

⁴ <https://afdc.energy.gov/fuels/prices.html>

⁵ See e.g., Appendix E of the Staff Report (at E-53), citing the 15-year old National Renewable Energy Laboratory's "Biodiesel Handling and Use Guide (Third Edition, 2006)," as a key basis for contamination, usage, storage and other issues raised in the Staff Report. The Third Edition has long been superseded by the Fifth Edition (2016) of that guide. Indeed, CARB's own 2015 Biodiesel Multimedia Evaluation found significant GHG, air quality, and environmental benefits and no significant adverse impacts from the use of biodiesel, including impacts to air and water quality. See <https://ww3.arb.ca.gov/fuels/multimedia/meetings/revisedbiodieselstaffreport.pdf> at 16.

3379.6
(cont.)

Comment Log Display

Here is the comment you selected to display.

Comment 20 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name Regina

Last Name Hsu

Email rhsu@earthjustice.org

Address

Affiliation Earthjustice

Subject Support for the Commercial Harbor Craft Regulation

Comment

Please see the attached letter from environmental, community, and health organizations urging the California Air Resources Board to adopt the Commercial Harbor Craft Regulation.

Attachment www.arb.ca.gov/lists/com-attach/3717-chc2021-W2tVYAMvVjcHNQcq.pdf

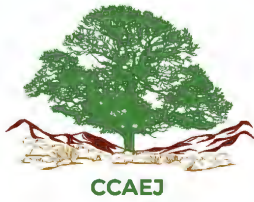
Original File Name 03-24-22 FINAL Harbor Craft Letter.pdf

Date and Time 2022-03-24 08:58:48

Comment Was Submitted

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

Board Comments Home



SAN PEDRO & PENINSULA HOMEOWNERS COALITION



March 24, 2022

Chair Randolph and Members of the Board
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Comments on the Proposed Amendments to Commercial Harbor Craft Regulation

Dear Chair Randolph and Members of the Board,

On behalf of the undersigned organizations, we respectfully submit this comment in support of the California Air Resources Board’s proposed amendments to the Commercial Harbor Craft regulation (Harbor Craft Regulation). We strongly urge the Board to adopt the Harbor Craft Regulation, which will alleviate the health harms imposed on portside communities in California.

3380.1

Harbor craft, which emit high levels of diesel particulate matter (DPM), nitrogen oxides (NOx), and other pollutants, are a growing source of air pollution in California. In March 2018, CARB staff proposed amending this rule in recognition of the increased health risks that harbor craft impose on portside communities.¹ By adopting this rule, CARB will reduce harmful cancer-causing emissions from harbor craft, which is set to become one of the largest contributors of near-source cancer risk around California ports.² The rule will also provide emission reductions of nitrogen oxides and fine particulate matter necessary to put the State on track to attain state and federal air quality standards.

¹ California Air Resources Board, Proposed Amendments to the Commercial Harbor Craft Regulation, Initial Statement of Reasons, II-2 [hereinafter ISOR].

² *Id.*, II-2, II-3.

I. The Rule Will Significantly Reduce Pollution and Provide Health Benefits to Impacted Communities.

CARB must adopt this rule to reduce the disproportionate pollution burdens borne by portside communities in California. Most harbor craft in California continue to operate on diesel engines and spew dangerous air pollution including DPM and NOx. Short- and long-term exposure to NOx increases the risk of developing respiratory and cardiovascular disease, cancer, and premature death.³ Long-term exposure to DPM increases the risk of lung cancer, chronic respiratory and cardiovascular diseases, decreased lung function in children, lung cancer, and premature death.⁴

Harbor craft imposes significant harms to port communities throughout California. For example, harbor craft are currently one of the top three contributors of diesel pollution around the San Pedro Bay Ports. Diesel pollution from harbor craft alone drastically increases the risk of cancer for communities living near the Ports of Los Angeles and Long Beach and even inland communities more than 50 miles from the coastline.⁵ Absent reductions from this rule, harbor craft will become the largest contributor of near-source cancer risk and the largest seaport emissions source at the San Pedro Bay Ports next year.⁶ Portside communities in Stockton, West Oakland, and San Diego also experience elevated health risks from harbor craft emissions and have identified pollution from harbor craft as an area of concern.⁷

The proposed rule will reduce cumulative statewide emissions from 2023 to 2038 by approximately 1,610 tons of fine particulate matter, 1,680 tons of diesel particulate matter, and 34,340 tons of nitrogen oxides.⁸ These emission reductions will provide significant health benefits to nearby communities and throughout the state. Statewide, the proposed rule will prevent 531 premature deaths, 236 asthma emergency room visits, and 161 hospitalizations for respiratory and cardiovascular illnesses.⁹ Much of these benefits will be realized in areas with high harbor craft activity, such as the South Coast and San Francisco Bay Area. In addition to alleviating the health harms in our communities, the rule will also provide emission reductions necessary for nonattainment areas, such as the South Coast Air Basin and San Joaquin Valley Air Basin, to meet federal and state air quality standards.

II. The Rule Provides Necessary Direction for a Zero-Emissions Transition

We appreciate that the proposed rule will result in significant, much-needed emission reductions. To achieve further reductions and ameliorate the health impacts associated with harbor craft pollution, this sector must move towards zero-emissions technology. Importantly, the Harbor Craft Regulation also represents a monumental first step in transitioning this source category to zero-emissions.

We applaud staff for setting zero-emission targets for short-run ferries and new excursion vessels in this rule. We appreciate that CARB will conduct biennial technology reviews beginning in 2024, and strongly support the inclusion of zero-emission technology requirements for all categories of commercial harbor craft as a contingency measure. We also appreciate the direction to evaluate the use of contingency measures to advance more zero-emissions harbor craft in places like the South Coast Air Basin and San

3380.2

³ California Air Resources Board, Proposed Amendments to the Commercial Harbor Craft Regulation, Standardized Regulatory Impact Assessment, 16 [hereinafter SRIA].

⁴ ISOR, II-4; SRIA, 15.

⁵ California Air Resources Board, Proposed Amendments to the Commercial Harbor Craft Regulation, Appendix G: Health Analyses, G-61 [hereinafter App. G].

⁶ SRIA, 15.

⁷ ISOR, I-30; SRIA, 24.

⁸ ISOR, VI-4.

⁹ App. G, G-61.

Joaquin Valley, which have terrible air quality. Given the rapid technological developments in this sector, CARB should continually evaluate the state of technology and update its rules as needed to accelerate the transition to zero-emissions harbor craft.

3380.3

The Harbor Craft Regulation is vital to protecting the health of Californians, particularly our portside communities. We urge CARB to adopt the proposed Harbor Craft Regulation, a critical public health measure that will reduce harmful pollution in overburdened port communities and help California achieve its air quality goals. Thank you for your consideration of these comments.

Sincerely,

Regina Hsu
Adrian Martinez
Earthjustice

Peter M. Warren
San Pedro & Peninsula Homeowners Coalition

Yassi Kavezade
Sierra Club

Theral Golden
West Long Beach Association

Ana Gonzalez
Center for Community Action & Environmental Justice

Ivette Torres
People's Collective for Environmental Justice

Heather Kryczka
Natural Resources Defense Council

Sylvia Betancourt
Long Beach Alliance for Children with Asthma

Professor Edward Avol
University of Southern California
Keck School of Medicine

Jesse N. Marquez
Coalition for a Safe Environment

Joe R. Gatlin
NAACP San Pedro-Wilmington Branch #1069

Ricardo Pulido
Community Dreams

Drew Wood
California Kids IAQ

Magali Sanchez-Hall, MPH
EMeRGE

Dulce Altamirano
Organización de Servicios Comunitarios Familiares

Comment Log Display

Here is the comment you selected to display.

Comment 21 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name	Emily
Last Name	Loper
Email Address	eloper@bayareacouncil.org
Affiliation	Bay Area Council
Subject	Bay Area Council Comment re: CHC Regulations
Comment	<input type="text"/>

Attachment	www.arb.ca.gov/lists/com-attach/3718-chc2021-BzcFMAYpUjNXZVR6.pdf
Original File Name	03.24.22 BAC - CARB CHC Regulations.pdf
Date and Time Comment Was Submitted	2022-03-24 08:59:45

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)



March 18, 2022

Liane M. Randolph
Chair, California Air Resources Board
1001 I Street
Sacramento, California 95814

Submitted via CARB Online Portal

Re: Proposed Amendments to the Commercial Harbor Craft Regulation

Dear Chair Randolph:

Thank you for the opportunity to comment on California Air Resources Board’s Proposed Amendments to the Commercial Harbor Craft (CHC) Regulations (“Proposed Amendments”). The Bay Area Council, representing over 300 employers around the region, has long advocated for the robust expansion of ferry service and decarbonizing vessels on San Francisco Bay. We are very supportive of the goal of these Proposed Amendments, but remain concerned about the feasibility of meeting these targets. As such, we urge you to approve the alternative compliance plans and technologies that our Bay Area operators have diligently developed in collaboration with CARB staff to meet these greenhouse gas reduction targets in a financially and logistically feasible manner. 3381.1

The Bay Area is home to some of the world’s leading green propulsion technologies and while the Bay Area Council has advocated for their adoption, we also recognize that this transition requires a large upfront capital investment. The Water Emergency Transportation Authority (WETA), which operates the state’s largest ferry system, is a national leader in embracing clean vessel technology, including implementing the first passenger vessels in the country to achieve the Environmental Protection Agency Tier 4 standards and reducing an estimated 10 tons of GHG emissions annually. WETA is also in the process of developing zero emission vessels to serve its new Mission Bay and Treasure Island routes in San Francisco. We are committed to continuing to work with WETA to help secure additional federal and state funding to support the electrification of its vessel fleet.

In partnership with CARB, WETA staff has worked throughout the last year to develop an Alternative Control of Emissions (ACE) plan that will shift 50% of their vessel fleet to zero emissions by 2035. We urge you to approve this ACE plan expeditiously following the approval of these Proposed Amendments so WETA can pursue funding opportunities to help decarbonize its fleet. Without this ACE plan, the cost of retrofitting or replacing its vessels to meet these new requirements would cost hundreds of millions of dollars that the transit agency simply does not have, particularly as it struggles to recover from the devastating financial impact of the pandemic. 3381.2

In addition to the public ferry system, private ferry operators will also need to pursue alternative plans to meet these greenhouse gas reduction targets in a financially feasible manner. Private ferry operators on San Francisco Bay have also worked with CARB staff to identify alternative control technology that could help those operators meet the requirements in a financially feasible way since they are not eligible for public grant opportunities. We urge you to approve these alternative control technologies quickly to ensure that these operators remain in compliance and in business. 3381.3



Lastly, the San Francisco Bay Pilots have a very unique fleet of pilot boats designed to navigate commercial ships to and from ports in the San Francisco Bay Area, Sacramento, and Stockton. The cost of replacing this small and specialized fleet would be over \$50 million, costs that would have to be passed onto their shipper clients and would risk further disrupting supply chain operations in the Bay Area. We respectfully request that their small existing fleet could be exempted from these requirements and new construction would be subject to the proposed regulations.

3381.4

Again, we are very supportive of the Proposed Amendments' goal of reducing emissions of vessels in California, but it is imperative that these operators can achieve these goals in a financially feasible way. We respectfully request that you approve these alternative compliance plans to help these fleets meet those goals.

Sincerely,

A handwritten signature in black ink, appearing to read 'Emily Loper', on a light grey background.

Emily Loper
Policy Director

Comment Log Display

Here is the comment you selected to display.

Comment 22 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name	Lauren
Last Name	Gularte
Email Address	gularte@watertransit.org
Affiliation	Water Emergency Transportation Authority
Subject	Water Emergency Transportation Authority (WETA) Comments on Proposed Amendments

Comment

Please see attached comments. Thank you.

Attachment	www.arb.ca.gov/lists/com-attach/3719-chc2021-USZdPgB1VmQCWwhr.pdf
Original File Name	WETA Comment_CARB Proposed CHC Regs_March 24 2022.pdf
Date and Time Comment Was Submitted	2022-03-24 09:08:36

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)

March 24, 2022

Liane M. Randolph
Chair, California Air Resources Board
1001 I Street
Sacramento, California 95814

Re: Proposed Amendments to the Commercial Harbor Craft Regulation

Dear Chair Randolph:

Thank you for the continued opportunity to comment on California Air Resources Board's Proposed Amendments to the Commercial Harbor Craft (CHC) Regulations ("Proposed Amendments"). The San Francisco Bay Area Water Emergency Transportation Authority (WETA) is a regional public transit agency tasked with operating and expanding San Francisco Bay ferry service on the San Francisco Bay and with coordinating the water transit response to regional emergencies. Under the San Francisco Bay Ferry brand, WETA carries over three million passengers annually utilizing a fleet of 15 high speed passenger-only ferry vessels. San Francisco Bay Ferry currently serves the cities of Alameda, Oakland, Richmond, San Francisco, South San Francisco and Vallejo.

WETA is supportive of the goal of the Proposed Amendments and is committed to operating the cleanest vessels possible. In partnership with CARB, WETA staff has worked throughout the last year to develop an Alternative Control of Emissions (ACE) plan that will shift 50% of our vessel fleet to zero emissions by 2035. We appreciate the time and effort your staff has committed to working with WETA in developing this plan and addressing our concerns with previous versions of the Proposed Amendments.

In advance of the November 19, 2021 CARB Commission hearing, WETA submitted the attached letter outlining two remaining requests for changes to the Proposed Amendments. Based on CARB's process, we understand that changes to the regulatory text will be released to the public for 15-days at a point after final action is taken on this item, which is anticipated to occur today. We hope that at today's hearing the Commission will direct staff to address WETA's remaining requests for changes to the Proposed Amendments. 3382.1

In addition, as also mentioned in the attached letter, WETA urges CARB to act promptly in reviewing and approving WETA's ACE Plan to facilitate swift implementation of the vessel projects to transition our fleet to zero emissions. Many of the vessel refurbishment and replacement projects that are included in WETA's draft ACE plan can take up to two years to implement once funding has been secured. Expedited approval will help position WETA to begin near-term projects that will bring about near term benefits to our regional and state air quality.

We are grateful for the time and effort your staff has committed to working with WETA over the last year. We hope to continue our partnership with CARB as we move toward implementation of the amended regulations. Thank you for your consideration. We would be pleased to answer any questions or provide further information.

Sincerely,



Seamus Murphy
Executive Director

cc: Richard Corey, CARB Executive Officer; David Quiros, Manager, Freight Technology Section
WETA Board of Directors

November 15, 2021

Liane M. Randolph
Chair, California Air Resources Board
1001 I Street
Sacramento, California 95814

Submitted via <https://www.arb.ca.gov/lispub/comm/bclist.php>

Re: Proposed Amendments to the Commercial Harbor Craft Regulation

Dear Chair Randolph:

Thank you for the continued opportunity to comment on California Air Resources Board's Proposed Amendments to the Commercial Harbor Craft (CHC) Regulations ("Proposed Amendments"). The San Francisco Bay Area Water Emergency Transportation Authority (WETA) has worked closely with your staff over the last year and a half, and we appreciate that the Proposed Amendments address nearly all of WETA's concerns. WETA has two remaining requests for changes to the Proposed Amendments, which are outlined below.

WETA is a regional public transit agency tasked with operating and expanding ferry service on the San Francisco Bay and with coordinating the water transit response to regional emergencies. Under the San Francisco Bay Ferry brand, WETA carries over three million passengers annually utilizing a fleet of 15 high speed passenger-only ferry vessels. San Francisco Bay Ferry currently serves the cities of Alameda, Oakland, Richmond, San Francisco, South San Francisco and Vallejo.

WETA has always been a leader in advancing and embracing clean vessel technology. From the agency's beginning, WETA pushed for the development and implementation of new diesel engine technology that exceeded Environmental Protection Agency's (EPA) standards, proving to the industry that increasingly stringent Federal emissions requirements were achievable. WETA's newest vessels are the first passenger vessels in the country to achieve EPA's Tier 4 emissions standards, reducing an estimated 10 tons of GHG emissions annually.

WETA is committed to operating the cleanest vessels possible and appreciates the opportunity that the Proposed Amendments provides to push our efforts even further. In partnership with CARB, WETA staff has worked throughout the last year to develop an Alternative Control of Emissions (ACE) plan that will shift 50% of our vessel fleet to zero emissions by 2035. This is an exciting endeavor, but as we mention below, implementing this plan will require new funding and significant investment.

WETA has two remaining requests for changes to the September 21, 2021 version of the Proposed Amendments:

1. Regarding subsection (f)(1)(I) on page 94, which states: "Emission reductions included in an ACE may not include reductions that are otherwise required by any local, State, or federal rule, regulation, or statute, or that are achieved or estimated from equipment not located in the region to which the ACE applies. The ACE application must not use equipment acquired by funds or grants that cannot be used to comply with State regulations, laws, or mandates."

3382.2

Requested change: The current language is confusing. The language is unnecessary if the intent is to allow operators to use grant funds, unless those funds are reserved for projects and programs that exceed State regulations, laws or mandates; or are otherwise restricted by the granting agency. Rather than limiting the use of grant funds to implement an operator's ACE plan, WETA suggests that the restrictions on the use of grant funds come directly from the granting agency. WETA respectfully requests CARB to delete this language

and instead rely on the granting agency to set eligibility requirements for the use of grant funds. Alternatively, WETA requests that CARB revise the final sentence as follows: “The ACE application may use equipment acquired by funds or grants only if such grant funds may be used to comply with State regulations, laws, or mandates.”

2. Section (e)(12)(D)(1)(b), in addition to other locations within the Proposed Amendments, states that the compliance date for an engine is based on the model year of the in-use engine that was installed in the in-use vessel as of December 31, 2022.

WETA Comment: WETA is currently in the process of upgrading all four of our Gemini Class vessels with tier 4 engines. One of those vessels is projected to be in the shipyard on December 31, 2022, and will likely not have an engine in it. According to the September 21, 2021 version of the Proposed Amendments, WETA is unsure what engine model year to attribute to a vessel that will not have an engine installed on December 31, 2022.

3382.3

Requested change: WETA respectfully requests CARB to address “in process” engine replacement projects in the sections of the Proposed Amendments that discuss the engine model year being set on December 31, 2022. WETA proposes that the following underlined text be included in Section (e)(12)(D)(1)(b) and other locations where it states that the compliance date for an engine is based on the model year of the in-use engine that was installed in the in-use vessel as of December 31, 2022:

Using Method D1, with the exception of engines complying by subsection (e)(12)(C)(4)b., the compliance date for an engine is based on the model year of the in-use engine that was installed in the in-use vessel as of December 31, 2022. For in-use vessels that are in the process of an engine replacement on December 31, 2022, the compliance date will be based on the model year of the engine that is in the process of being installed in a vessel.

We look forward to your consideration of these two changes in the Final Amendments to the CHC Regulations.

In addition to the two comments above, WETA also would like to remind CARB that it will submit an Alternative Control of Emissions (ACE) Plan immediately upon the effectiveness of the new rule. WETA urges CARB to act promptly in reviewing and approving WETA’s ACE Plan to facilitate swift implementation of these improvements. Many of the vessel refurbishment and replacement projects that are included in WETA’s draft ACE plan can take up to two years to implement once funding has been secured. Expedited approval will help position WETA to begin near-term projects that will bring about near term benefits to our regional and state air quality.

We are grateful for the time and effort your staff has committed to working with WETA over the last year. We hope to continue our partnership with CARB as we move toward implementation of the amended regulations.

Thank you for your consideration. We would be pleased to answer any questions or provide further information.

Sincerely,



Seamus Murphy
Chair

cc: Richard Corey, CARB Executive Officer; David Quiros, Manager, Freight Technology Section
WETA Board of Directors

Comment Log Display

Here is the comment you selected to display.

Comment 24 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - .

First Name Jerry

Last Name Allen

Email jallen@foss.com

Address

Affiliation Foss Maritime

Subject OEM Plans to provide DEF on Marine Engines?

Comment

I recently as today we have reached out to the major suppliers of Marine Engines for Tugs and Workboats in California about designing and providing marine engines with DPF based on the CARB Schedule. Every OEM provided the same comment, they have heard about the rule but have no begun RD or any reseach to make these DEF Systems nor do they have a timeline when they are available.

Which OEM of Marine Engines (CAT, MTU, Cummins, EMD) has CARB Staff reached out to that provided feedback that these DPF's will be designed and available on the new Harbor Craft Rule and will they work on present Tier 3 and Tier 4 engines we have already purchased and installed in our vessels?

Attachment

**Original
File Name**

Date and Time	2022-03-24 09:08:40
Comment Was Submitted	

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)

Comment Log Display

Here is the comment you selected to display.

Comment 23 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name Joy

Last Name Williams

Email Address JoyW@environmentalhealth.org

Affiliation Environmental Health Coalition

Subject Commercial Harbor Craft rule

Comment

A letter from Environmental Health Coalition and Portside Steering Committee members is attached.

Attachment www.arb.ca.gov/lists/com-attach/3721-chc2021-BWBRP1w+WFQAZQZp.pdf

Original File Name EHC_Commercial Harbor Craft Rule_March22_2022_FINAL.pdf

Date and Time Comment Was Submitted 2022-03-24 09:09:00

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)

Chair Randolph and Members of the Board
California Air Resources Board
1001 I Street
Sacramento, California 95814
Via Electronic submittal

March 21, 2022

Re: CARB’s Proposed Amendments to the Commercial Harbor Craft (CHC) Regulation (CARB 3/24/22 Board Meeting Agenda #22-5-1) – Letter of Support with a Request for Stronger Requirements

Dear Chair Randolph and Members of the Board:

Environmental Health Coalition and the undersigned members of the AB 617 Portside Steering Committee support the CHC Rule amendments (i.e., inclusion of additional CHC vessel categories to in-use requirements, more stringent low use requirements for harbor craft operating near disadvantaged communities, requirements for zero emission (ZE) for short run ferries and new excursion vessels). The Rule amendments will contribute important air quality and health benefits for San Diego communities most exposed to harbor craft emissions. We thank staff for their hard work on the Rule and for bringing it forward. However, additional amendments must be incorporated into the Rule to reduce stranded assets scenarios for CHC owners/operators and to more aggressively transition vessel categories to ZE to help to offset the public health crisis in the state’s most vulnerable communities.

The proposed Rule requires CHC owners to invest in new diesel engines that will become stranded assets, while failing to set forth a pathway to transition these vessels to ZE. In addition, CHC is a significant emission source in Portside Communities. According to estimates included in the final version of the Portside Community Emission Reduction Plan (CERP), CHC accounts for over half, 53%, of diesel particulate matter from off-road sources, and 47% of the NOx.¹ This translates into a large portion of health risk. CARB modeling done for the CERP determined that **84% of the weighted cancer risk from toxic air contaminants is from diesel PM.² Of that 84%, 78% is from Off Road Sources.³** And, according to the Port of San Diego’s December 2021 draft Health Risk Assessment (HRA), diesel emissions from CHC represent about 28 percent of the cancer risk to the Portside community of Barrio Logan.⁴ CHC also generates large volumes of greenhouse gases. A 2016 Port of San Diego emissions inventory found that CHC is the **single largest source of greenhouse gas emissions** from Port related sources – larger than ocean going vessels within San Diego Bay.

Accordingly, we urge the Board to direct staff to include the following amendments to the Rule:

¹ <https://www.sdapcd.org/content/dam/sdapcd/documents/capp/cerp/Portside-Environmental-Justice-CERP-July-2021.pdf>, p.40.

² <https://www.sdapcd.org/content/dam/sdapcd/documents/capp/cerp/Portside-Environmental-Justice-CERP-July-2021.pdf>, p.55.

³ Ibid.

⁴ https://pantheonstorage.blob.core.windows.net/environment/20211202_MCAS_Health_Risk_Assessment_Summary_Report_Draft.pdf

- Set all ferries, tugboats, dredges, and barges on an electrification pathway right now and require full electrification by 2035. The Port of San Diego already has embarked on this transition, with a fully electric Crowley Marine tugboat due to arrive in San Diego by early 2023.
- Include a technology re-opener in rule language to revisit ZE options as the commercial market for these technologies matures.
- Establish greater incentives to transition diesel tugs to ZE with prioritized assistance to single tug owners and small tug fleets.

In conclusion, we urge CARB to make its CHC Rule as close as possible to requiring absolute zero emissions as soon as that is feasible. Californians, the nation, and the world are facing interrelated existential public health, racial justice, and climate crises. The technology to create ZE CHC is well on its way to achieving 100% zero-emissions by 2035, and it would be a mistake for CARB to endorse a continuation of diesel-powered vessels during the decade of urgent climate and clean air action.

Sincerely,

Joy Williams
Environmental Health Coalition
Portside Steering Committee

Josie Talamantez
Community Resident, Portside Steering Committee

Silvia Calzada
Community Resident, Portside Steering Committee

Margarita Moreno,
Community Resident, Portside Steering Committee

Monserrat Hernandez
Community Resident, Portside Steering Committee

Philomena Marino
Community Resident, Portside Steering Committee

Dr. Stephanie Yoon
Medical Expert, Portside Steering Committee

Roman Partida-Lopez
Greenlining Institute
Portside Steering Committee

Comment Log Display

Here is the comment you selected to display.

Comment 25 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name Leah

Last Name Harnish

Email lharnish@americanwaterways.com

Address

Affiliation The American Waterways Operators

Subject American Waterways Operators Proposed Resolution for the CARB Board Co

Comment

To Whom it May
Concern,

On
behalf of the American Waterways Operators, attached is a
resolution that AWO proposes the Board consider and adopt in
to direct staff to improve the CHC rule as the commence final
rulemaking.

Thank you,

Leah

Attachment www.arb.ca.gov/lists/com-attach/3723-chc2021-B2RcO1UmAziEXQFi.pdf

Original File Name CARB CHC Board Resolution_Timeline and DPF, ATB, Zero Emissions.pdf

Date and Time 2022-03-24 09:14:02

Comment Was Submitted

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)

Proposed

State of California Air Resources Board

Proposed Amendments to the Commercial Harbor Craft Regulation

Whereas, Health and Safety Code sections 39600 and 39601 authorize the California Air Resources Board (CARB or Board) to adopt standards, rules and regulations, and to do such acts as may be necessary for the proper execution of the powers and duties granted to, and imposed upon, the Board by law;

Whereas, Health and Safety Code section 43013, subdivision (b) authorizes the Board to adopt standards and regulations for off-road and nonvehicular engine categories, including marine vessels such as commercial harbor craft (CHC), to the extent permitted by federal law;

Whereas, Health and Safety Code section 43018, subdivisions (a) and (d)(3) direct the Board to endeavor to achieve the maximum degree of emission reductions possible from vehicular and other mobile sources, including marine vessels, in order to accomplish the attainment of the state ambient air quality standards at the earliest practicable date;

Whereas, in Health and Safety Code section 39650, the Legislature finds and declares that it is the public policy of the State that emissions of toxic air contaminants should be controlled to levels that prevent harm to the public health;

Whereas, Health and Safety Code sections 39658, 39659, and 39666 authorize the Board to establish airborne toxic control measures (ATCMs) for substances identified as toxic air contaminants in accordance with specified criteria;

Whereas, on August 27, 1998, the Board identified particulate matter from diesel-fueled engines (diesel PM) as a toxic air contaminant pursuant to article 3 (commencing with section 39660), division 26, part 2, chapter 3.5 of the Health and Safety Code;

Whereas, in identifying diesel PM as a toxic air contaminant, the Board determined that there is not sufficient scientific evidence to support identification of a threshold level for diesel PM below which no significant adverse health effects are anticipated; this is codified in title 17, California Code of Regulations (CCR), section 93000;

Whereas, for toxic air contaminants for which the Board has not specified a threshold exposure level, Health and Safety Code section 39666 subdivision (c) requires the development of ATCMs designed to reduce emissions of toxic air contaminants from nonvehicular sources to the lowest level achievable through the application of best available control technology (BACT) or a more effective control method, considering factors specified in section 39665, unless the Board determines, based on an assessment of risk, that an alternative level of emissions reduction is adequate or necessary to prevent endangerment of public health;

Whereas, Health and Safety Code section 38505 defines "greenhouse gas" (GHG) or "greenhouse gases" for purposes of Division 25.5 of the Health and Safety Code as including all of the following gases:

carbon dioxide (CO₂), methane (CH₄), nitrous oxide, hydrofluorocarbons (HFC), perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride;

Whereas, Health and Safety Code section 38510 designates CARB as the State agency charged with monitoring and regulating sources of GHG emissions that cause global warming in order to reduce such emissions;

Whereas, section 38560 of the Health and Safety Code directs the Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions from sources or categories of sources;

Whereas, Health and Safety Code section 38566 directs the Board to ensure that in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions authorized by Division 25.5 of the Health and Safety Code, that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide GHG emissions limit no later than December 31, 2030;

Whereas, Health and Safety Code section 38580 requires the Board to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism adopted by CARB pursuant to Division 25.5 of the Health and Safety Code;

Whereas, Health and Safety Code section 41511 authorizes CARB to adopt rules and regulations to require the owner or operator of any air pollution emission source to take reasonable actions for the determination of the amount of such emission from such source;

Whereas, Health and Safety Code section 43019.1 authorizes CARB to adopt a schedule of fees to cover all or a portion of its reasonable costs associated with the certification, audit, and compliance of, off-road or nonvehicular engines and equipment, aftermarket parts, and emissions control components sold in the State;

Whereas, CHC are nonvehicular sources that emit significant amounts of air pollutants, including diesel particulate matter (DPM), fine particulate matter (PM_{2.5}), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), and reactive organic gases (ROG);

Whereas, the Board approved at its November 2007 hearing the initial CHC regulation in Resolution 07-47, and the initial CHC regulation became effective on November 19, 2008;

Whereas, the initial CHC regulation identified Regulated California Waters as a region of water, including all California internal waters, estuarine waters, ports, and coastal waters generally within 24 nautical miles of California's coast, which is a subset of the California Coastal Waters (title 17, CCR, section 70500(b)(1)). The Board previously determined, in Resolutions 05-63, and 07-47, through extensive studies of meteorological, wind, and atmospheric conditions, that emissions of air pollutants within the California Coastal Waters are likely to be transported to coastal communities and have adverse impacts on human health and welfare and the environment;

Whereas, the Board approved amendments to the CHC regulation in June 2010, which became effective on July 20, 2011, which are hereby referred to as the "Current Regulation";

Whereas, the Current Regulation will be fully implemented by the end of 2022 and there will be additional need to reduce emissions from CHC;

Whereas, despite substantial progress in reducing emissions from CHC over the last decade, CHC emissions continue to impact nearby communities, including communities located in ozone and PM2.5 nonattainment areas. In addition, the DPM emissions from CHC impact communities located adjacent to those operations, as well as people living and working miles away;

Whereas, the air pollutants emitted by diesel engines on CHC pose serious health concerns to nearby communities due to near source exposure to such toxic pollutants;

Whereas, in October 2015, U.S. Environmental Protection Agency adopted a more stringent 70 parts per billion (ppb) ozone standard with an attainment date of 2037 that will likely result in additional areas of the State being classified as nonattainment and therefore requiring even further emission reductions in California's existing nonattainment areas;

Whereas, coastal areas throughout the State continue to be impacted by emissions generated from the approximately 3,159 CHC operating in Regulated California Waters, especially near California seaports and marine terminals;

Whereas, the emissions from CHC directly impact five air basins or counties in California - the San Francisco Bay Area, the San Joaquin Valley, the Ventura County, the South Coast, and the San Diego Air Basins – that are not in attainment with the federal National Ambient Air Quality Standards (NAAQS) for PM2.5 and ozone NAAQS;

Whereas, in 2018, CARB staff presented a scoping evaluation for the Ports of Los Angeles and Long Beach that indicated CHC were one of the top contributors to near source cancer risk in 2016, and would pose an even larger cancer risk in 2023;

Whereas, the October 2018 Community Air Protection Blueprint (Blueprint) adopted by the Board to implement AB 617, identifies the introduction of new cleaner standards for CHC to reduce emissions and exposure in disproportionately burdened communities throughout the State;

Whereas, Executive Order N-79-20 set a goal to transition to 100 percent zero-emission off-road vehicles and equipment by 2035, where feasible, to put the State on the path to carbon neutrality;

Whereas, to achieve additional emission reductions from CHC, CARB staff has Proposed Amendments, as set forth in Appendix A to the Staff Report: Initial Statement of Reasons (September 2021 Staff Report) released to the public on September 21, 2021;

Whereas, the tugboat, towboat, and barge industry is committed to emissions reduction and transitioning to a 100 percent zero-emissions inventory in California in the safest and most efficient manner;

Whereas, staff reviewed written comments received on the Draft EA and prepared written

responses to those comments in a document entitled Response to Comments on the Environmental Analysis Prepared for the proposed Amendments to the Commercial Harbor Craft Regulation (Response to EA Comments);

Whereas, prior to the duly noticed public hearing held on March 24, 2022, staff presented the Final EA and the Response to EA Comments, as released to the public on March 14, 2022;

Whereas, a public hearing and other administrative proceedings have been held according to the provisions of Chapter 3.5 (commencing with section 11340), part 1, division 3, title 2 of the Government Code; and

Whereas, the Board finds that:

1. Upon implementation, the Regulation approved herein would reduce emissions of Diesel PM, GHG and Nox,
2. Supply chain delays, staffing shortages, and technical limitations decrease operators' ability to repower vessels in a typical timeframe,
3. The compliance deadlines in the Proposed Amendments should be modified to allow adequate time for engineering assessments, materials acquisition, shipyard reservation, and repowering,
4. Diesel Particulate Filters (DPF) installation shall not be required until a Board technical review finds a DPF that has been certified for marine use by the U.S. Coast Guard and American Bureau of Shipping, and is determined to be safe for installation by the engine manufacturer for the specific make and model of the engine,
5. A minimum of six (6) years from the point of DPF approval is needed in order to do the necessary reporting steps and to align the repowering work with other required regulatory activities, and
6. Upon passage of the Proposed Amendments, Board directs staff to work with industry to implement this and all previous Board resolutions and directives relating to the CHC Rule.

Now be it resolved that the adopted regulatory text may be further revised, which will be added to the rulemaking effort.

Be it further resolved that the Board directs the Executive Officer to determine if additional sufficiently related modifications to the amendments to section 2299.5, title 13, California Code of Regulations, and to section 93118.5, title 17, California Code of Regulations, as set

forth in Appendix A to the Initial Statement of Reasons released to the public on September 21, 2021, are appropriate, and that if no additional modifications are appropriate, the Executive Officer shall take CARB's final step for final approval of such amendments through submittal of the Board-approved rulemaking package to the Office of Administrative Law. If the Executive Officer determines that additional sufficiently related substantial modifications are appropriate, the modified regulatory language shall be made available for public comment, with any additional supporting documents and information, for at least 15 days, and the Executive Officer shall consider written comments submitted during the public review period and make any further modifications that are appropriate available for public comment for at least 15 days. The Board delegates to the Executive Officer the authority to both (1) either approve or disapprove proposed changes in regulatory language under Government Code section 11346.8(c), and (2) conduct any appropriate further environmental review associated with such changes, consistent with the Board's Certified Regulatory Program regulations, at California Code of Regulations, title 17, sections 60000-60008, for those sufficiently related substantial modifications. Alternatively, rather than taking action on the proposed modifications, the Executive Officer may instead present the modifications, and any appropriate further environmental review associated with the modifications, to the Board for further consideration, if the Executive Officer determines further Board consideration is warranted.

Be it further resolved that the Board directs the Executive Officer to finalize the Final Statement of Reasons, submit the completed rulemaking package to the Office of Administrative Law, and transmit the Notice of Decision to the Secretary of the Natural Resources Agency for posting.

Be it further resolved that, to the extent necessary, the Executive Officer shall, upon adoption, forward the regulations to the Environmental Protection Agency with a request for an authorization or confirmation that the regulations are within the scope of an existing authorization pursuant to section 209, subdivision (e)(2)(A) of the CAA, as appropriate.

Proposed

State of California Air Resources Board

Proposed Amendments to the Commercial Harbor Craft Regulation

Whereas, Health and Safety Code sections 39600 and 39601 authorize the California Air Resources Board (CARB or Board) to adopt standards, rules and regulations, and to do such acts as may be necessary for the proper execution of the powers and duties granted to, and imposed upon, the Board by law;

Whereas, Health and Safety Code section 43013, subdivision (b) authorizes the Board to adopt standards and regulations for off-road and nonvehicular engine categories, including marine vessels such as commercial harbor craft (CHC), to the extent permitted by federal law;

Whereas, Health and Safety Code section 43018, subdivisions (a) and (d)(3) direct the Board to endeavor to achieve the maximum degree of emission reductions possible from vehicular and other mobile sources, including marine vessels, in order to accomplish the attainment of the state ambient air quality standards at the earliest practicable date;

Whereas, in Health and Safety Code section 39650, the Legislature finds and declares that it is the public policy of the State that emissions of toxic air contaminants should be controlled to levels that prevent harm to the public health;

Whereas, Health and Safety Code sections 39658, 39659, and 39666 authorize the Board to establish airborne toxic control measures (ATCMs) for substances identified as toxic air contaminants in accordance with specified criteria;

Whereas, on August 27, 1998, the Board identified particulate matter from diesel-fueled engines (diesel PM) as a toxic air contaminant pursuant to article 3 (commencing with section 39660), division 26, part 2, chapter 3.5 of the Health and Safety Code;

Whereas, in identifying diesel PM as a toxic air contaminant, the Board determined that there is not sufficient scientific evidence to support identification of a threshold level for diesel PM below which no significant adverse health effects are anticipated; this is codified in title 17, California Code of Regulations (CCR), section 93000;

Whereas, for toxic air contaminants for which the Board has not specified a threshold exposure level, Health and Safety Code section 39666 subdivision (c) requires the development of ATCMs designed to reduce emissions of toxic air contaminants from nonvehicular sources to the lowest level achievable through the application of best available control technology (BACT) or a more effective control method, considering factors specified in section 39665, unless the Board determines, based on an assessment of risk, that an alternative level of emissions reduction is adequate or necessary to prevent endangerment of public health;

Whereas, Health and Safety Code section 38505 defines "greenhouse gas" (GHG) or "greenhouse gases" for purposes of Division 25.5 of the Health and Safety Code as including all of the following gases:

carbon dioxide (CO₂), methane (CH₄), nitrous oxide, hydrofluorocarbons (HFC), perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride;

Whereas, Health and Safety Code section 38510 designates CARB as the State agency charged with monitoring and regulating sources of GHG emissions that cause global warming in order to reduce such emissions;

Whereas, section 38560 of the Health and Safety Code directs the Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions from sources or categories of sources;

Whereas, Health and Safety Code section 38566 directs the Board to ensure that in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions authorized by Division 25.5 of the Health and Safety Code, that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide GHG emissions limit no later than December 31, 2030;

Whereas, Health and Safety Code section 38580 requires the Board to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism adopted by CARB pursuant to Division 25.5 of the Health and Safety Code;

Whereas, Health and Safety Code section 41511 authorizes CARB to adopt rules and regulations to require the owner or operator of any air pollution emission source to take reasonable actions for the determination of the amount of such emission from such source;

Whereas, Health and Safety Code section 43019.1 authorizes CARB to adopt a schedule of fees to cover all or a portion of its reasonable costs associated with the certification, audit, and compliance of, off-road or nonvehicular engines and equipment, aftermarket parts, and emissions control components sold in the State;

Whereas, CHC are nonvehicular sources that emit significant amounts of air pollutants, including diesel particulate matter (DPM), fine particulate matter (PM_{2.5}), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), and reactive organic gases (ROG);

Whereas, the Board approved at its November 2007 hearing the initial CHC regulation in Resolution 07-47, and the initial CHC regulation became effective on November 19, 2008;

Whereas, the initial CHC regulation identified Regulated California Waters as a region of water, including all California internal waters, estuarine waters, ports, and coastal waters generally within 24 nautical miles of California's coast, which is a subset of the California Coastal Waters (title 17, CCR, section 70500(b)(1)). The Board previously determined, in Resolutions 05-63, and 07-47, through extensive studies of meteorological, wind, and atmospheric conditions, that emissions of air pollutants within the California Coastal Waters are likely to be transported to coastal communities and have adverse impacts on human health and welfare and the environment;

Whereas, the Board approved amendments to the CHC regulation in June 2010, which became effective on July 20, 2011, which are hereby referred to as the "Current Regulation";

Whereas, the Current Regulation will be fully implemented by the end of 2022 and there will be additional need to reduce emissions from CHC;

Whereas, despite substantial progress in reducing emissions from CHC over the last decade, CHC emissions continue to impact nearby communities, including communities located in ozone and PM2.5 nonattainment areas. In addition, the DPM emissions from CHC impact communities located adjacent to those operations, as well as people living and working miles away;

Whereas, the air pollutants emitted by diesel engines on CHC pose serious health concerns to nearby communities due to near source exposure to such toxic pollutants;

Whereas, in October 2015, U.S. Environmental Protection Agency adopted a more stringent 70 parts per billion (ppb) ozone standard with an attainment date of 2037 that will likely result in additional areas of the State being classified as nonattainment and therefore requiring even further emission reductions in California's existing nonattainment areas;

Whereas, coastal areas throughout the State continue to be impacted by emissions generated from the approximately 3,159 CHC operating in Regulated California Waters, especially near California seaports and marine terminals;

Whereas, the emissions from CHC directly impact five air basins or counties in California - the San Francisco Bay Area, the San Joaquin Valley, the Ventura County, the South Coast, and the San Diego Air Basins – that are not in attainment with the federal National Ambient Air Quality Standards (NAAQS) for PM2.5 and ozone NAAQS;

Whereas, in 2018, CARB staff presented a scoping evaluation for the Ports of Los Angeles and Long Beach that indicated CHC were one of the top contributors to near source cancer risk in 2016, and would pose an even larger cancer risk in 2023;

Whereas, the October 2018 Community Air Protection Blueprint (Blueprint) adopted by the Board to implement AB 617, identifies the introduction of new cleaner standards for CHC to reduce emissions and exposure in disproportionately burdened communities throughout the State;

Whereas, Executive Order N-79-20 set a goal to transition to 100 percent zero-emission off-road vehicles and equipment by 2035, where feasible, to put the State on the path to carbon neutrality;

Whereas, to achieve additional emission reductions from CHC, CARB staff has Proposed Amendments, as set forth in Appendix A to the Staff Report: Initial Statement of Reasons (September 2021 Staff Report) released to the public on September 21, 2021;

Whereas, the tugboat, towboat, and barge industry is committed to emissions reduction and transitioning to a 100 percent zero-emissions inventory in California in the safest and most efficient manner;

Whereas, the Board recognized and directed staff in Resolution 20-22 to engage the articulated tug barge (ATB) industry to determine the best options for cost-effective emissions reductions that recognize the unique nature of ATBs;

Whereas, staff reviewed written comments received on the Draft EA and prepared written responses to those comments in a document entitled Response to Comments on the Environmental Analysis Prepared for the proposed Amendments to the Commercial Harbor Craft Regulation (Response to EA Comments);

Whereas, prior to the duly noticed public hearing held on March 24, 2022, staff presented the Final EA and the Response to EA Comments, as released to the public on March 14, 2022;

Whereas, a public hearing and other administrative proceedings have been held according to the provisions of Chapter 3.5 (commencing with section 11340), part 1, division 3, title 2 of the Government Code; and

Whereas, the Board finds that:

1. Upon implementation, the Regulation approved herein would reduce emissions of Diesel PM, GHG and Nox,
2. Oceangoing tugs and barges and ATBs operate under the same conditions as vessels regulated under the California “*Control Measure for Ocean-Going Vessels at Berth Regulation*” (At-Berth Rule) and work under the conditions as the fishing vessels currently exempt from the Proposed Regulation,
3. These oceangoing vessels and all ATB with a capacity over 120,000 billion barrels of liquid should be exempt from the CHC rule and regulated under the At-Berth Rule,
4. Upon passage of the Proposed Amendments, Board directs staff to work with industry to implement this and Board resolutions 20-22.

Now be it resolved that the adopted regulatory text may be further revised, which will be added to the rulemaking effort.

Be it further resolved that the Board directs the Executive Officer to determine if additional sufficiently related modifications to the amendments to section 2299.5, title 13, California Code of Regulations, and to section 93118.5, title 17, California Code of Regulations, as set forth in Appendix A to the Initial Statement of Reasons released to the public on September 21, 2021, are appropriate, and that if no additional modifications are appropriate, the Executive Officer shall take CARB’s final step for final approval of such amendments through submittal of the Board-approved rulemaking package to the Office of Administrative Law. If the Executive Officer determines that additional sufficiently related substantial modifications are appropriate,

the modified regulatory language shall be made available for public comment, with any additional supporting documents and information, for at least 15 days, and the Executive Officer shall consider written comments submitted during the public review period and make any further modifications that are appropriate available for public comment for at least 15 days. The Board delegates to the Executive Officer the authority to both (1) either approve or disapprove proposed changes in regulatory language under Government Code section 11346.8(c), and (2) conduct any appropriate further environmental review associated with such changes, consistent with the Board's Certified Regulatory Program regulations, at California Code of Regulations, title 17, sections 60000-60008, for those sufficiently related substantial modifications. Alternatively, rather than taking action on the proposed modifications, the Executive Officer may instead present the modifications, and any appropriate further environmental review associated with the modifications, to the Board for further consideration, if the Executive Officer determines further Board consideration is warranted.

Be it further resolved that the Board directs the Executive Officer to finalize the Final Statement of Reasons, submit the completed rulemaking package to the Office of Administrative Law, and transmit the Notice of Decision to the Secretary of the Natural Resources Agency for posting.

Be it further resolved that, to the extent necessary, the Executive Officer shall, upon adoption, forward the regulations to the Environmental Protection Agency with a request for an authorization or confirmation that the regulations are within the scope of an existing authorization pursuant to section 209, subdivision (e)(2)(A) of the CAA, as appropriate.

Proposed

State of California Air Resources Board

Proposed Amendments to the Commercial Harbor Craft Regulation

Whereas, Health and Safety Code sections 39600 and 39601 authorize the California Air Resources Board (CARB or Board) to adopt standards, rules and regulations, and to do such acts as may be necessary for the proper execution of the powers and duties granted to, and imposed upon, the Board by law;

Whereas, Health and Safety Code section 43013, subdivision (b) authorizes the Board to adopt standards and regulations for off-road and nonvehicular engine categories, including marine vessels such as commercial harbor craft (CHC), to the extent permitted by federal law;

Whereas, Health and Safety Code section 43018, subdivisions (a) and (d)(3) direct the Board to endeavor to achieve the maximum degree of emission reductions possible from vehicular and other mobile sources, including marine vessels, in order to accomplish the attainment of the state ambient air quality standards at the earliest practicable date;

Whereas, in Health and Safety Code section 39650, the Legislature finds and declares that it is the public policy of the State that emissions of toxic air contaminants should be controlled to levels that prevent harm to the public health;

Whereas, Health and Safety Code sections 39658, 39659, and 39666 authorize the Board to establish airborne toxic control measures (ATCMs) for substances identified as toxic air contaminants in accordance with specified criteria;

Whereas, on August 27, 1998, the Board identified particulate matter from diesel-fueled engines (diesel PM) as a toxic air contaminant pursuant to article 3 (commencing with section 39660), division 26, part 2, chapter 3.5 of the Health and Safety Code;

Whereas, in identifying diesel PM as a toxic air contaminant, the Board determined that there is not sufficient scientific evidence to support identification of a threshold level for diesel PM below which no significant adverse health effects are anticipated; this is codified in title 17, California Code of Regulations (CCR), section 93000;

Whereas, for toxic air contaminants for which the Board has not specified a threshold exposure level, Health and Safety Code section 39666 subdivision (c) requires the development of ATCMs designed to reduce emissions of toxic air contaminants from nonvehicular sources to the lowest level achievable through the application of best available control technology (BACT) or a more effective control method, considering factors specified in section 39665, unless the Board determines, based on an assessment of risk, that an alternative level of emissions reduction is adequate or necessary to prevent endangerment of public health;

Whereas, Health and Safety Code section 38505 defines "greenhouse gas" (GHG) or "greenhouse gases" for purposes of Division 25.5 of the Health and Safety Code as including all of the following gases:

carbon dioxide (CO₂), methane (CH₄), nitrous oxide, hydrofluorocarbons (HFC), perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride;

Whereas, Health and Safety Code section 38510 designates CARB as the State agency charged with monitoring and regulating sources of GHG emissions that cause global warming in order to reduce such emissions;

Whereas, section 38560 of the Health and Safety Code directs the Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions from sources or categories of sources;

Whereas, Health and Safety Code section 38566 directs the Board to ensure that in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions authorized by Division 25.5 of the Health and Safety Code, that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide GHG emissions limit no later than December 31, 2030;

Whereas, Health and Safety Code section 38580 requires the Board to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism adopted by CARB pursuant to Division 25.5 of the Health and Safety Code;

Whereas, Health and Safety Code section 41511 authorizes CARB to adopt rules and regulations to require the owner or operator of any air pollution emission source to take reasonable actions for the determination of the amount of such emission from such source;

Whereas, Health and Safety Code section 43019.1 authorizes CARB to adopt a schedule of fees to cover all or a portion of its reasonable costs associated with the certification, audit, and compliance of, off-road or nonvehicular engines and equipment, aftermarket parts, and emissions control components sold in the State;

Whereas, CHC are nonvehicular sources that emit significant amounts of air pollutants, including diesel particulate matter (DPM), fine particulate matter (PM_{2.5}), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), and reactive organic gases (ROG);

Whereas, the Board approved at its November 2007 hearing the initial CHC regulation in Resolution 07-47, and the initial CHC regulation became effective on November 19, 2008;

Whereas, the initial CHC regulation identified Regulated California Waters as a region of water, including all California internal waters, estuarine waters, ports, and coastal waters generally within 24 nautical miles of California's coast, which is a subset of the California Coastal Waters (title 17, CCR, section 70500(b)(1)). The Board previously determined, in Resolutions 05-63, and 07-47, through extensive studies of meteorological, wind, and atmospheric conditions, that emissions of air pollutants within the California Coastal Waters are likely to be transported to coastal communities and have adverse impacts on human health and welfare and the environment;

Whereas, the Board approved amendments to the CHC regulation in June 2010, which became effective on July 20, 2011, which are hereby referred to as the "Current Regulation";

Whereas, the Current Regulation will be fully implemented by the end of 2022 and there will be additional need to reduce emissions from CHC;

Whereas, despite substantial progress in reducing emissions from CHC over the last decade, CHC emissions continue to impact nearby communities, including communities located in ozone and PM2.5 nonattainment areas. In addition, the DPM emissions from CHC impact communities located adjacent to those operations, as well as people living and working miles away;

Whereas, the air pollutants emitted by diesel engines on CHC pose serious health concerns to nearby communities due to near source exposure to such toxic pollutants;

Whereas, in October 2015, U.S. Environmental Protection Agency adopted a more stringent 70 parts per billion (ppb) ozone standard with an attainment date of 2037 that will likely result in additional areas of the State being classified as nonattainment and therefore requiring even further emission reductions in California's existing nonattainment areas;

Whereas, coastal areas throughout the State continue to be impacted by emissions generated from the approximately 3,159 CHC operating in Regulated California Waters, especially near California seaports and marine terminals;

Whereas, the emissions from CHC directly impact five air basins or counties in California - the San Francisco Bay Area, the San Joaquin Valley, the Ventura County, the South Coast, and the San Diego Air Basins – that are not in attainment with the federal National Ambient Air Quality Standards (NAAQS) for PM2.5 and ozone NAAQS;

Whereas, in 2018, CARB staff presented a scoping evaluation for the Ports of Los Angeles and Long Beach that indicated CHC were one of the top contributors to near source cancer risk in 2016, and would pose an even larger cancer risk in 2023;

Whereas, the October 2018 Community Air Protection Blueprint (Blueprint) adopted by the Board to implement AB 617, identifies the introduction of new cleaner standards for CHC to reduce emissions and exposure in disproportionately burdened communities throughout the State;

Whereas, Executive Order N-79-20 set a goal to transition to 100 percent zero-emission off-road vehicles and equipment by 2035, where feasible, to put the State on the path to carbon neutrality;

Whereas, to achieve additional emission reductions from CHC, CARB staff has Proposed Amendments, as set forth in Appendix A to the Staff Report: Initial Statement of Reasons (September 2021 Staff Report) released to the public on September 21, 2021;

Whereas, the tugboat, towboat, and barge industry is committed to emissions reduction and transitioning to a 100 percent zero-emissions inventory in California in the safest and most efficient manner;

Whereas, staff reviewed written comments received on the Draft EA and prepared written

responses to those comments in a document entitled Response to Comments on the Environmental Analysis Prepared for the proposed Amendments to the Commercial Harbor Craft Regulation (Response to EA Comments);

Whereas, prior to the duly noticed public hearing held on March 24, 2022, staff presented the Final EA and the Response to EA Comments, as released to the public on March 14, 2022;

Whereas, a public hearing and other administrative proceedings have been held according to the provisions of Chapter 3.5 (commencing with section 11340), part 1, division 3, title 2 of the Government Code; and

Whereas, the Board finds that:

1. Upon implementation, the Regulation approved herein would reduce emissions of Diesel PM, GHG and Nox,
2. The cost to repower a vessel can be up to \$4.7 million and the cost to replace a vessel can be over \$16 million. Early retirement or repowering of these vessels prevent cost recouperation and can financially harm operators,
3. A vessel with a Tier 3 or Tier 4 engine, in full compliance with all parts of the Proposed Amendments except the DPF requirement, should have the opportunity to apply for an exemption whereas they may operate their existing engine for its full useful life with the requirement that at its close, the vessel will be retrofitted as a zero-emissions vessel or as close to zero-emissions as technology allows or be removed from California Regulated waters,
4. Existing financial assistance mechanisms should be modified to better support the maritime industry in reaching California's zero-emissions goal, and
5. Upon passage of the Proposed Amendments, Board directs staff to work with industry to implement this and all previous Board resolutions and directives relating to the CHC Rule.

Now be it resolved that the adopted regulatory text may be further revised, which will be added to the rulemaking effort.

Be it further resolved that the Board directs the Executive Officer to determine if additional sufficiently related modifications to the amendments to section 2299.5, title 13, California Code of Regulations, and to section 93118.5, title 17, California Code of Regulations, as set forth in Appendix A to the Initial Statement of Reasons released to the public on September 21, 2021, are appropriate, and that if no additional modifications are appropriate, the Executive Officer shall take CARB's final step for final approval of such amendments through submittal of

the Board-approved rulemaking package to the Office of Administrative Law. If the Executive Officer determines that additional sufficiently related substantial modifications are appropriate, the modified regulatory language shall be made available for public comment, with any additional supporting documents and information, for at least 15 days, and the Executive Officer shall consider written comments submitted during the public review period and make any further modifications that are appropriate available for public comment for at least 15 days. The Board delegates to the Executive Officer the authority to both (1) either approve or disapprove proposed changes in regulatory language under Government Code section 11346.8(c), and (2) conduct any appropriate further environmental review associated with such changes, consistent with the Board's Certified Regulatory Program regulations, at California Code of Regulations, title 17, sections 60000-60008, for those sufficiently related substantial modifications. Alternatively, rather than taking action on the proposed modifications, the Executive Officer may instead present the modifications, and any appropriate further environmental review associated with the modifications, to the Board for further consideration, if the Executive Officer determines further Board consideration is warranted.

Be it further resolved that the Board directs the Executive Officer to finalize the Final Statement of Reasons, submit the completed rulemaking package to the Office of Administrative Law, and transmit the Notice of Decision to the Secretary of the Natural Resources Agency for posting.

Be it further resolved that, to the extent necessary, the Executive Officer shall, upon adoption, forward the regulations to the Environmental Protection Agency with a request for an authorization or confirmation that the regulations are within the scope of an existing authorization pursuant to section 209, subdivision (e)(2)(A) of the CAA, as appropriate.

Comment Log Display

Here is the comment you selected to display.

Comment 26 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name Barry

Last Name McCooley

Email barry@mlpowersystems.co.uk

Address

Affiliation ML Power Systems / M&H Engineering

Subject CARB Board Meeting Thursday 24th March 2022, Presentation submission for CHC regulations.

Comment

Dear Clerk of the Board

Please find attached a presentation that I would like to submit and present to the Board Meeting on Thursday 24th March 2022 regarding the California Harbour Craft regulations that is being discussed.

We are in support of these regulations, as are an engine manufacturer who has engines to meet these regulations.

Please can you advise of the next steps, I have registered for the meeting and had a Zoom meeting reply.

Regards

Attachment www.arb.ca.gov/lists/com-attach/3724-chc2021-AWxWOFULUWcHbwJl.pdf

Original File Name MH Engineering - CARB Presentation 24.03.pdf

Date and Time 2022-03-24 09:27:12

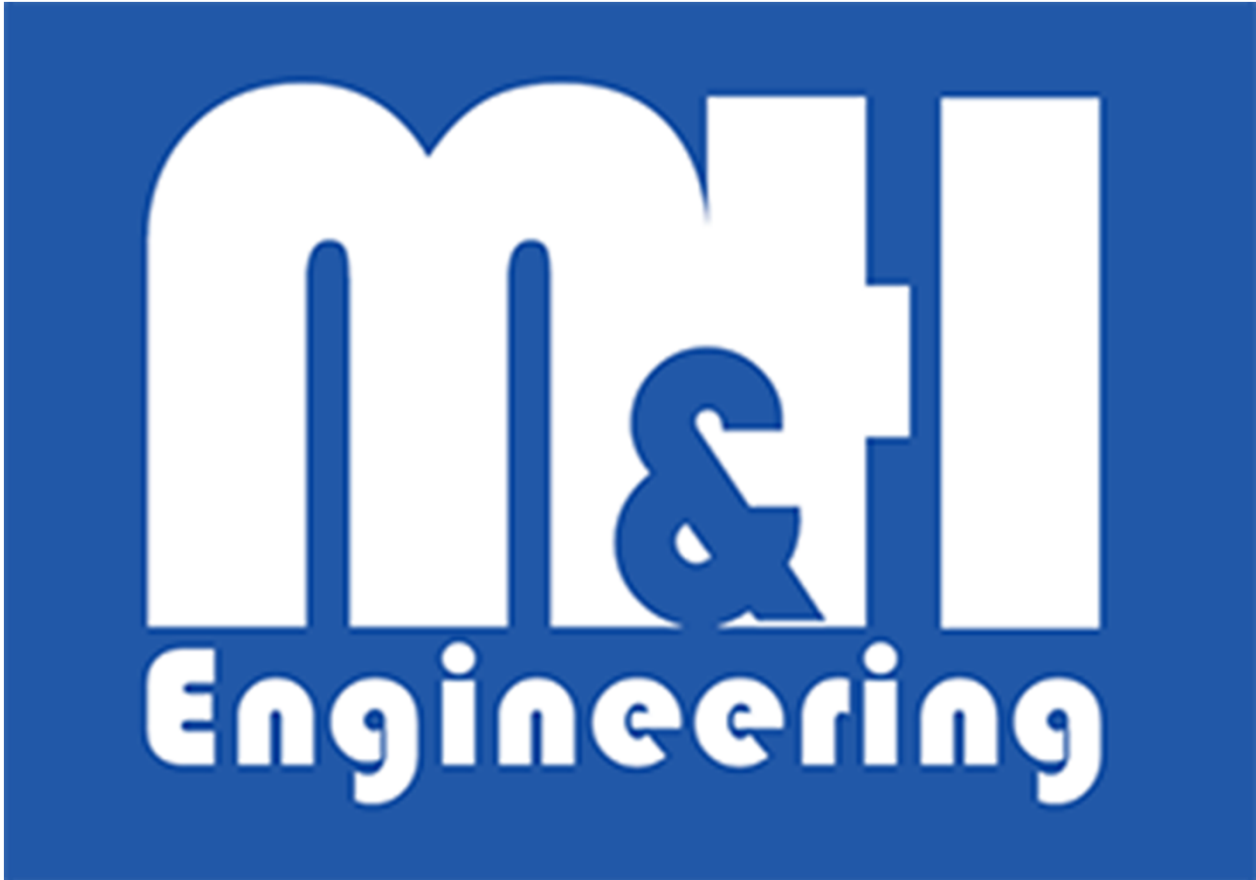
Comment Was Submitted

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)

Presentation
by:
Barry McCooley

EPA Certified
Tier 4 Marine
Engines

The logo for M&H Engineering is displayed on a blue rectangular background. The letters 'm', 'h', and '&' are in a large, white, rounded, lowercase font. Below this, the word 'Engineering' is written in a smaller, white, lowercase, sans-serif font.

m&h
Engineering

Reduced Emissions.

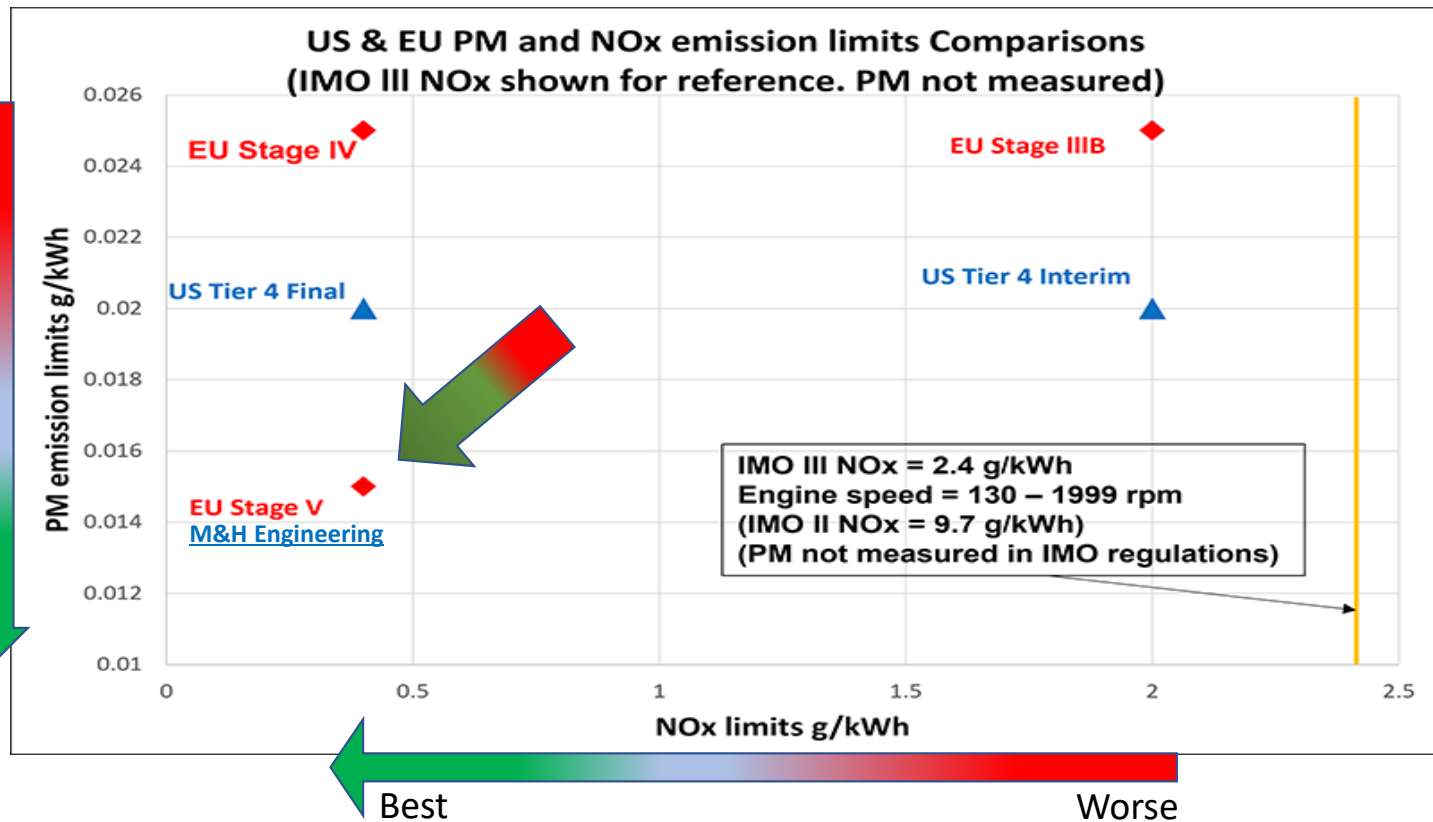
M&H Engines are certified to EU Stage-V and US Tier 4 emissions levels, they exceed IMOIII standard.

M&H Engineering engines are designed to meet or exceed **all present and future marine emission regulations** globally.

55-317kW in phase 1 in 2022.

350-680kW phase 2 in 2023.

For propulsion, generator and auxiliary applications. Sea water cooled, keel cooled and radiator options.



Refit or New Builds.

Designed as a re-fit engine package to replace present engine range fitted to vessels. Ideal for Commercial Passenger Fishing Vessels that are wooden or fibreglass construction. Excursions vessels where weight is critical.

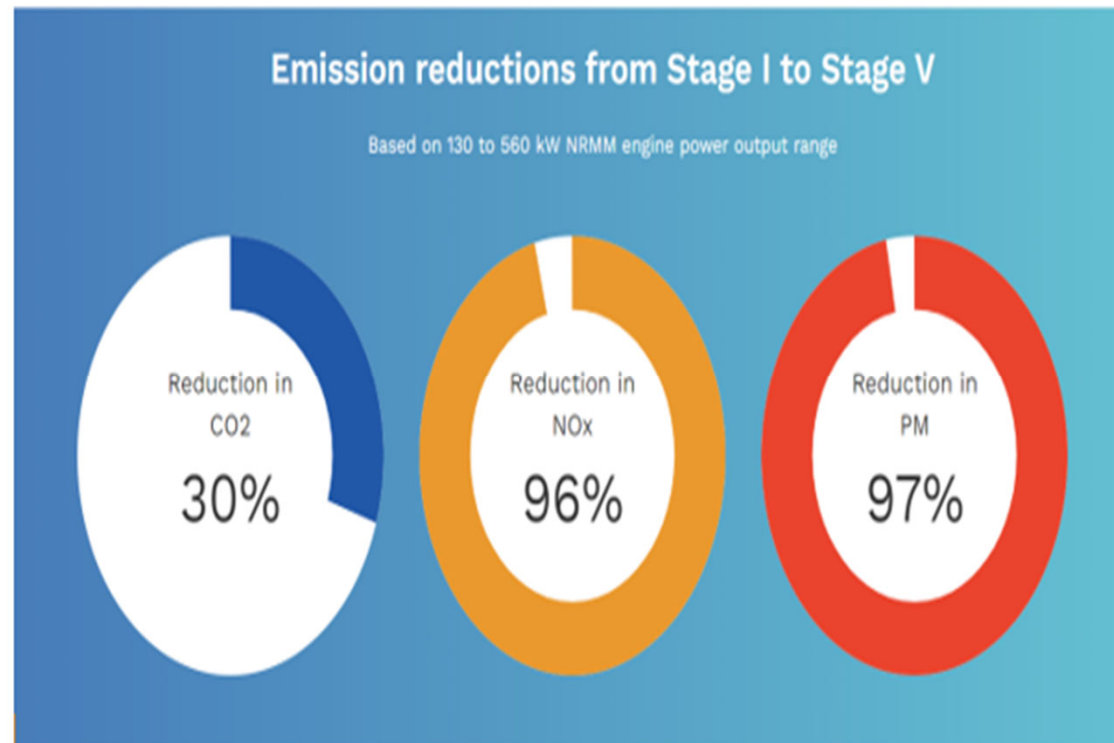
Similar engine layout and configuration to existing marine engines. Easy to install with 12/24 volt options.

Front PTO options available for hydraulics or generator.

Designed to operate at sea safely without compromising the vessel or handling.

Higher torque at lower RPM, full loading at all speeds. Lower fuel consumption.

Simple and straightforward servicing requirements.



After Treatment.

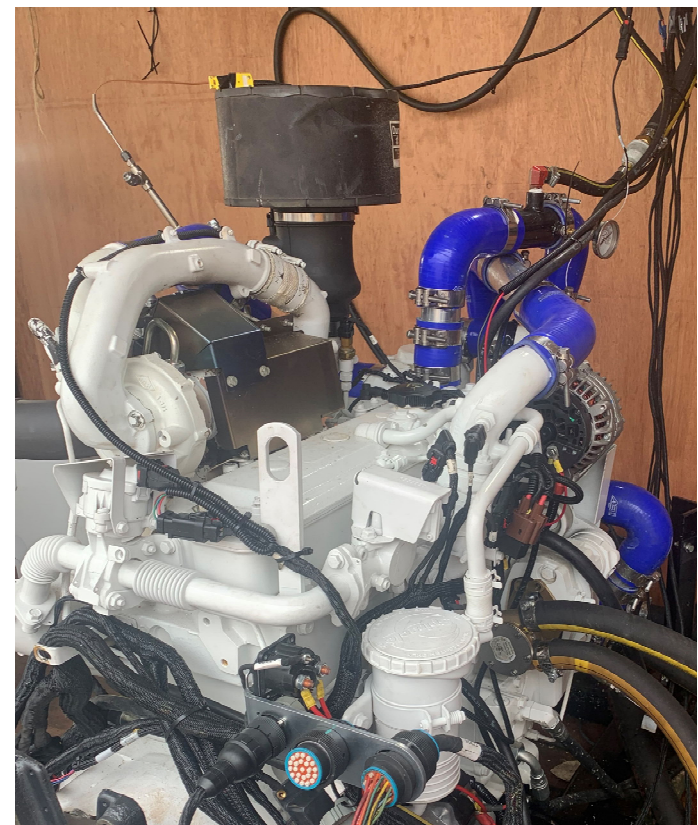
Aftertreatment can be behind the engine or remotely mounted if required, or in different void space or on deck.

Packaged and protected. [No hot surface temperatures.](#)

The aftertreatment will not cause high temperatures in the engine room, can pass through wooden, fibreglass and aluminium bulkheads safely and correctly.

Integrated and compact aftertreatment package that is the size of 2 x 25litre drums on the 9 litre engine. Lighter weights that retro-fit systems.

We also have these engines as Hazardous Area engines for the petrochemical barges and Hazardous Applications.





Why M&H Engineering.

We believe that we have designed an engine package that can be fitted to all types of vessels without compromising the vessel in weight or stability.

Can be used as dry exhaust system when this suits or as a water cooled insulated exhaust replacing existing wet exhaust, with a mixer at the discharge point.

Small integrated after treatment package that is highly reliable. With an engine that has proven reliability when compared to other competitors' solutions.

Built on a time proven base engine that has good service and local support networks already established.





Engine Power Range.

M&H engines can use the full power and torque curve, allowing the engine to deliver full power at lower rpm and reducing the need for deep reduction gearboxes, thus give significant fuel cost savings. These engines are more efficient than the previous engines.

Confirmed Power Range, delivery Q3 2022.

4.5 Litre T₄ / Stage-V from 55kW to 129kW @2400rpm. Open to take orders.

6.8 Litre T₄ / Stage-V from 104kW to 224kW @2400rpm. Open to take orders.

9 Litre T₄ / Stage-V from 250kW to 317kW @ 2200rpm. Open to take orders.

In Development 2022, to be confirmed. Expected delivery Q3 2023

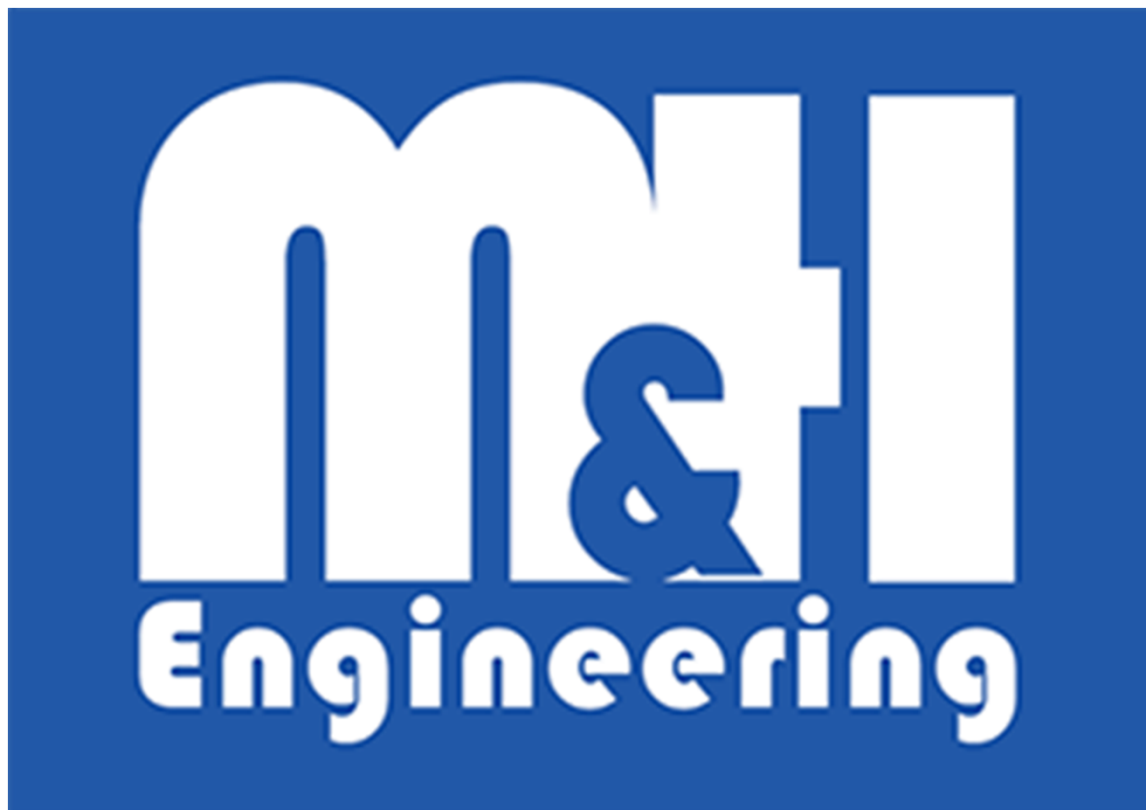
14 Litre T₄/Stage-V from 300kW to 510kW @ 2100rpm

18 Litre T₄ / Stage-V from 513kW to 680kW @ 1900rpm*

* TBC



M&H Stage-V Marine Engines



WWW.MARINEANDHAZARDOUSENGINES.COM

Comment Log Display

Here is the comment you selected to display.

Comment 27 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name Sean

Last Name Kearns

Email Address sean.kearns@mail.house.gov

Affiliation Representative Nanette Diaz Barragan

Subject Support for Proposed Amendments to the Commercial Harbor Craft Regulation

Comment

Please see the attached letter from Representative Nanette Diaz Barragan in support of the proposed amendments to the commercial harbor craft regulation. Thank you.

Attachment www.arb.ca.gov/lists/com-attach/3725-chc2021-BWYBZgFyVGUAWQYr.pdf

Original File Name CARB - Proposed Amendments to Commercial Harbor Craft Regulations.pdf

Date and Time 2022-03-24 09:36:53

Comment Was Submitted

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)

NANETTE DIAZ BARRAGÁN
44TH DISTRICT, CALIFORNIA
[FACEBOOK.COM/CONGRESSWOMANBARRAGAN](https://www.facebook.com/congresswomanbarragan)
TWITTER: @REPBARRAGAN

COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEES:
HEALTH
ENVIRONMENT AND CLIMATE CHANGE
ENERGY

COMMITTEE ON HOMELAND SECURITY
SUBCOMMITTEES:
BORDER SECURITY, FACILITATION, AND OPERATIONS
CHAIRWOMAN

CONGRESSIONAL HISPANIC CAUCUS
FIRST VICE CHAIR



Congress of the United States
House of Representatives
Washington, DC 20515

WASHINGTON OFFICE:
2246 RAYBURN HOUSE OFFICE
BUILDING
WASHINGTON, DC 20515
(202) 225-8220

DISTRICT OFFICES:

MAIN OFFICE
302 W. FIFTH STREET, SUITE 201
SAN PEDRO, CA 90731
(310) 831-1799

701 E. CARSON STREET
CARSON, CA 90745

8650 CALIFORNIA AVENUE
SOUTH GATE, CA 90280

205 S. WILLOWBROOK AVENUE
COMPTON, CA 90220

March 22, 2022

Liane Randolph, Chair
California Air Resources Board
10001 I Street
Sacramento, CA 95814

RE: Proposed Amendments to Commercial Harbor Craft Regulation (Agenda Item # 22-5-1)

Dear Chair Randolph and Members of the Board:

I support the proposed amendments to the Commercial Harbor Craft Regulation (CHCR) before the California Air Resources Board (CARB). I urge the Board to adopt these proposed amendments, as they would strengthen existing regulations and significantly reduce toxic air pollution in port communities across the State of California, including in my Congressional District.

Harbor crafts represent one of the top three sources of emissions at seaports.ⁱ In 2023, they are expected to contribute to more diesel particulate matter emissions than trucks at the San Pedro Bay Port Complex. Vessels with Tier 2 engines, permitted under the current regulation, emit 162 times more diesel particulate matter than a five-year-old school bus. The proposed amendments would reduce harbor craft emissions of diesel particulate matter by 89 percent and nitrogen oxide by 54 percent, once fully implemented. Additionally, by strengthening the CHCR, the State of California will take a big step toward transitioning the marine sector to zero-emissions, while also moving closer to net-zero carbon goals and mitigating the impacts of climate change.

Ports are economic engines both locally and nationwide, but also major sources of air pollution with serious public health consequences. My Congressional District, which includes the Port of Los Angeles and the neighboring communities of Wilmington and San Pedro, is burdened by one of the highest asthma rates in the nation.ⁱⁱ Strengthening the CHCR will have a significant impact on the health and quality of life of my constituents.

By CARB's own estimates, the proposed amendments to strengthen the CHCR would avoid the premature deaths of 531 Californians, while preventing 236 emergency room visits and 161 hospital admissions. Full implementation of the proposed amendments would reduce health

expenses by \$5.25 billion with implementation costs a significantly lower \$1.98 billion. The cost-effectiveness and public health benefit of strengthening the CHRC is clear.

As the Representative of California's 44th Congressional District, I urge CARB to consider the health and safety of California's port communities by adopting the proposed amendments to strengthen the CHCR.

Sincerely,



Nanette Diaz Barragán
Member of Congress

ⁱ California Air Resources Board. (2021, October 1). *Proposed Amendments to the Commercial Harbor Craft Regulations*. <https://ww2.arb.ca.gov/resources/fact-sheets/proposed-amendments-commercial-harbor-craft-regulation>

ⁱⁱ SmartAirLA/LBACA. *Los Angeles-Long Beach Harbor Asthma Danger Zone Map*. <https://www.healthycity.org/archives/smartairla/>

Comment Log Display

Here is the comment you selected to display.

Comment 28 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name Jenny

Last Name Dudikoff

Email jdudikoff@ka-pow.com

Address

Affiliation

Subject Comments to the board: Concerns with lack of funding for Proposed Commercial Harbor Craft

Comment

Public Hearing to Consider Proposed Amendments to the Commercial Harbor Craft Regulation (chc2021)

On behalf of more than 1,000 petition signatories (names attached at the end of this letter) who reside, work and travel to and from Catalina Island, this letter registers deep concerns over CARB's current proposed harbor craft rules.

The past few years have created hardships for many localities, especially those made up of small businesses and tourism, CARB's proposed regulations could negatively impact the ability of Catalina Channel Express (CCE) and other passenger ferry services to continue operations; the vital ferry transportation systems that transport passengers to and from the Island. CARB's proposed rules will require CCE and other passenger ferries to make costly changes to the engines on their

vessels that are not feasible or purchase replacement vessels to achieve reduced emissions, costing CCE upwards of \$120 million. **Without state funding to make this transition feasible**, the

current proposed regulations place an impossible financial burden on CCE that is a privately regulated utility regulated by the CPUC. The negative consequences of these new regulations, without sufficient funding for the transition to new vessels equipped with Tier IV engines, will negatively impact transportation efficiency, reliability, and affordability.

These rules will not only impact CCE and other passenger ferries, but could significantly harm Catalina Island tourism and economic livelihood. By providing adequate funding to help implement this transition, the state can achieve its long-range emissions goals while maintaining the vital ferry transportation system that serves the people of Catalina and the workers and visitors that travel to the Island.

STATE FUNDING IS CRITICAL

State funding is needed to help private operators comply with the new regulatory mandates being proposed. While CCE is committed to a longer-term goal of eventually transitioning to zero-emission vessels, privately-owned companies need time and adequate funding to achieve this goal.

The cost to repower an existing vessel is \$7 million but will displace approximately 50% of the passenger capacity. The cost to build a new vessel is approximately \$20 million. Compliance with Tier IV mandated changes would cost upwards of \$120 million to replicate the same level of service with a fleet of new vessels. Without

dedicated state funding provided for this massive new expenditure, these proposed regulations are far too cost prohibitive for a privately owned company.

Without

increased and dedicated Carl Moyer funding or dedicated funding in other CARB programs aimed at the new vessel purchases, these mandates are simply not feasible because they are cost prohibitive for a private company to finance.

**LOSS OF RELIABLE AND
AFFORDABLE FERRY SERVICE**

Without sufficient funding provided by the state to make this transition, these prohibitive costs would not only impact CC and the loss of reliable and affordable ferry service but would significantly harm Catalina Island tourism and the economy. There are no other viable options for passengers in large numbers to reach the Island other than by ferry, so these costly and economically harmful mandates to replace or upgrade ferries without sufficient financial assistance to the operators will cause an unavoidable ripple effect on every business and resident on the Island.

In times like these, we should be attracting visitors and supporting local economies, not discouraging tourism, and fiscally harming small communities.

On behalf of

more than 1,000 petition signatories, we strongly urge CARB to prioritize funding for ferries like CCE for the Clean Transportation Incentives program with sufficient funding to begin to replace CCE's fleet.

Thank you for the opportunity to comment and for the thoughtful consideration of the economic impacts these regulations will have on CCE, other passenger ferries, and Catalina Island.

Sincerely,

Jim
Luttjohann
President & CEO
Love Catalina
jim@Lovecatalina.com

**Comments
registered by petition signatories:**

"The economy on the island requires safe, regular and reliable ferry service daily at a reasonable charge. The proposed carrier requirements are too burdensome, expensive to implement, and will hurt island residents, visitors and businesses."

"I travel to Catalina often for leisure and business. This would cause economic hardship on the people, business, and community of Catalina. Catalina Express is the lifeline to the island."

"I am signing as a property owner on Catalina Island, Avalon. Residents have no other option for traveling from the island to mainland"

Southern California. There are no roads or bridges."

"Convenient and affordable transportation is vital to the wellbeing of the town of Avalon!"

"We own property in Avalon and spend 3-4 months a year there, taking 5-6 round trips a year on the Express. Full-time residents have an even greater need for affordable transportation across the channel. Please provide state funding sufficient to make this feasible for this special island."

"We are homeowners in Avalon and travel back and forth to the mainland frequently. Catalina Express has always provided safe, affordable, and reliable ferry transportation for our family. If CARB is requiring expensive changes to the passenger ships, they should have included financial assistance."

**Full
list of petition signatories attached.**

Attachment	www.arb.ca.gov/lists/com-attach/3726-chc2021-WytSMVEkWWNWJFM6.pdf
Original File Name	petition_signatures_3.24.22.pdf
Date and Time	2022-03-24 09:58:50
Comment Was Submitted	

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)

Name

Jennifer Dudikoff
Gail Hodge
Michelle Warner
Rachel McKinney
Cinde MacGugan-Cassidy
James Luttjohann
Jennifer Poyer
Conrado Vega
Shawnene Parker
Patrick Fearn
William Deering
Rose Ellen Gardner
Greg Bisconte
Kevin Kramer
Franco Carlo
hailey vang
Michael Wilsey
Rock Gosselin
May h
Elaine Vaughan
Mehari Kahsu
Falcon Knight
Mary Gosselin
matt pennoni
John King
Allen Faulkner
Barbara King
Cami Garnier
Armando Paredes
Kathy Dunne
Sabrina Johnson
Bonnie Sill
Jessica Palacios
Isaac Romero
Whitney DuBarry
Angel Garcia
Jesse Litton
Alva Peguero
Rachaya Lane
Scott Montgomery
Joel Saldivar
kristen escobar
Juan Armenta
Vanessa Sosa
Yaneth Caballero
Alejandro Leyva
Amanda Stroder
Judy Rios
John LaFleur

Brenda Carel
Clapper Rebecca
Carina Carel
Terrilea Sanchez
Leah Bartleet
Cheri Jordahl-Anderson
Michael Ponce
Janalee Moreland Arthur
Sharon Gorelczenko
Nicole Flynn
Maya Oldden
Nicolle Benjamin-Grigolla
John Phelps
Deanna Clausen
andrew toller
Virginia Garza
Dustin Cookman
Benjamin Nassif
Kevin Yepez
Todd Thomas
Nicole Engel
Amber Rojas
David Mello
Traci Degnan
Theresa McDowell
Vivianna Ramos
Arleen Walker Walker
Elias Gerber
Dartagnan pendleton
Shannen Mcgraw
Effy Cook
Marty Kreisler
Raz Andreason
Beatriz Tejeda
Mark MacDonald
Thomas Cappannelli
Michael McCarthy
Melissa Talsky
Kristen Hernandez
Gail Fredenburgh
Rachel Hansen
Brenda Brown
Anna Hintz
Jose Martinez
Kenneth Trainer
Sam Morse
Christy Alegria
Ana Hernandez
Tania Bravo
Breann Bussard

George Foote
James Forte
Brad Foote
Julie Mattocks
John Meffert
Dan Dunlop
James Vandegrift
Margery Williams
Margaret Matchett
Cameron Linn
Dianne Dilly
Kaily Meza
Kensley Flynn
Alondra Reyes
Pamela McElroy
Rodney Muller
Hailey Nelson
Taylor Dunlop
Bernadette Foote
Dave Anderson
Morley Chamberlain
GaryJanet Scheer
Tucker Hopkins
Alma Pilster
Judith McGonigle
Kent Cowgur
Sandi Bittle
Hayden Werbe
Lisa werbe
Niki Stansbury
Cindy Bergstedt
Denise Breitenstein
Shari Cobb
Laurie Posey Levulis
Alicia Allswang
Danielle Crosser
Wendy Gardner
Jeff Christiansen
Martin Kincheloe
Roxane Chase
Doty Martha
Bassette III
julie santiago
John Novak
Christa Leatherwood
Kristin Pascual
Stephanie McElroy
Caitlin Quintana
Erica Cruz
Larpie Wortham

Shawn Furrer
Raymond Orosco
Tatianna Morcelo
Molly Gordon
Annie Bliss
Julian Clark
Ariel Nelson
Colleen Taylor
Anna Wilson
kenyzijauh Washington
Alicia Sewell
Mara Williams
Teri Misafiris
Susan Waters
Marianne Carson
Ignacio Xavier Hernandez
Lana Unatin
Karima Qazi
Tracy Romo
Madelyn LeBlanc
Alesya Andreyev
Samuel Fisher
Chris Leung
Carolyn Nash
Ryan Rodriguez
Alex Jacobs
Paige Turner
Samantha Calisto
Naschby Delrio
Juanita Lubrano
Brenda Maldonado
Lashonda Townsend
Rosandra Hernandez
julie lopez
Nolan Erck
Tiffany Hamel
Natalie Hernandez
James Palmer
Aimee Casillas
Salina Garcia
JIm Anderson
Tolman Losey
Valerie Holmes
Ophelia De Casillas
Carl Johnson
christopher joseph chalmers
Tiffany Allen
Jordan Nelson
Candice Shearer
Ashley Corrales

Nicole Kai
Kenneth Witt
Sara Mintz
Daniel Smith
Dulce Maldonado
Robert Ortiz
Yasmeen Desoto
bri perez
Alexa Fiorane
Kennedy H
Robin Houghton
Makenzie Wages
Dannee Huband
Michele Anderson
Scott Worley
Wendy Bocardo
Brock Eddie
Shyla Gonzalez
Dawn Lamb
Sheri Cadman
Cheryl Ann Shanks
Lean M
mark phelps
Zulehmy Corona
Susan Houser
Jorge Hernandez
Sage Pluck
Genevieve George
lilah trainer
Cam Z
Stephanie Vazquez
Angel Vazquez Rodriguez
Maria Lin
Lilian Mello
Irma Hernandez
Geoffrey Rusack
Dulce Castelan
Chase Gil
Christopher Brizendine
Diana Rios
Diana Voishan
Catherine Stephens
Cat Ollebac
Janet DeMyer
Hunter Rusack
Brian Perez
Austin Rusack
Lynn Stevenson
Gabrielle Morones
Marisa Morones

Gabriela Hernandez
Robin Cassidy
Melissa Talsky
Jamie Huffstutler
Jessica DuBois
Maribel Calvillo
Jacob Hunt
Jorja Bruce
nicholle davis
Lisa Lavelle
Stephen Weber
Jose Correa
Steve Whittington
Loretta Cheron
Stephen Watt
Luis Garcia
Tom Dahl
Larry Koenig
Nature High Elk
Meagen Golden
Cade Carlson
Kathleen Ponce
peter macisaac
Joseph Tucker
William Tucker
Vrej Hamayan
Hilda Arias
Mabel Sanchez
Madilyn Grizzard
Benjamin Tucker
JOSEPH F & MARGARET M LAZZARI
Brenda Hoefs
Alberto Brunoni
Katherine Tucker
Angie Purves
Jeffrey Tucker
olivia barany
barb zarecky
Ron Niederman
Zed Hawk
Phillip Ponce
litzy lopez
Sydney Hsu
DARLENE Muirhead
Stephen Cruz
Charles Martin
Dain Verret
Chris Iacono
Nadia Hottendorf
Stephanie Hernandez

ava segura
Coral Cadman
Alejandro Romero
Madisyn Hill
Virginia Soto
Jimmy Felix IV
Melanie Bastida
destiny vega
Emily Montalban
Jacob Morales
Daniel Gutierrez
Alana Moreno
diana arneson
Jonah Sampson
Giselle Alvarez
Pedro Marquez
Shannen Antunes
Uriel Hernandez
Sebastian Garcia
Adonis Meza
Teagan Machado
Heather Fullmer
Tania Ramos
jose vera
Esteban Chavolla
Tania Martinez
Izaiana Gutierrez
crystal chavolla
Francisco Bravo
Adal Vazquez
Karlee Ann
Yasmin Pedroza
chloe ewing
Jonathan Gilbert
ken daniell
Nichalas Neid
John Earl
Justin Leyva
Alejandro Lira
megan conn
Joe Leon
adamaris bravo
Avel reyes
Morgan Degnan
Valerie Marucci
Stone Samms
Brianna Chavoya
Anthony Carreon
Tiffany Munoz
Christian Amoroso

Giulianna Alcala
Jarely Silva
Ken Klingensmith
Ashley Plascencia
Yuridia Garcia
Tiffany Tamayo
Patrick Sitzes
Sam Huertas
Nicole West
Ximena Moreno
Mackenna Mitchell
emily valadez
Laura McElroy
Aixa Silva Garcia
brixaida garxia
arlene cazares
Hayden Mills
Gabe Sellers
Erin Child
Gretchen Child
Julissa padilla
william schmuck
Sol Vines
hennessy salazar
Leslie Galvez
Emily Mello
caitlyn boyer
Weston Jones
Lizeth Martinez
Julissa Herrera Hernandez
Jasmine Hernández
Paizly Wilson
Angel Peguero
Diego Peguero
Maria Leyva
destyn riddle
Jonathan Alfaro
Paul Reed
Angel Sanchez
Ryan Beckner
Kaitlyn Caras
Larry Ward
Seaenna Neville
Ramiro Escamilla
Tanya Chavoya
Christian Flores
Macario Arellano
Aaron Meza
Brian Escobedo
Yasmin Daza

Denise Silva
Amadeus Garcia Brown
Emilee McCormack
Sumayya Biler
rhiannon green
Aiden Waters
Brayden Horner
Courtney Ramirez
Daniella Moreno
Grace Carlson
Nancy Chavoya
kylie jones
Sydney Schmidt
Olivia Hooven
Raina Hain
Laine Corell
Christopher Haro
Beyla Jones
Nicole Miles
Jasmin Jimenez
Matthew De la rosa
Caden Wegner
Alberto Delgado
Amy Gloeckner
Julliani Lawrence
Sasha Clark
Linda Gonzalez
miranda macias
Oscar Miranda
Lily Hopkins
Isaac Leyva
karla gonzalez
Bryson Robinson
Christopher Gonzalez
Samantha Ernst
Johannes Rivera
Brenda Marias
Janette Alfaro
Kaylee Sullivan
Anna Gloeckner
Emma Tripp
Sydney Martin
Lily Holland
Ricky Abril
Izzy Glickman
molly roth
Ariana Cueva
Simon Strick
ava jennings
Jaylynn Gulley

Jessica Moreno
Marcos Cardeno
K W
Ashley Miranda
Lunden Welch
Haley Campbell
Natalee Castellon
tara schnoo
Stephanie Jimenez
Aleya Harris
Autumn Morris
Kathleen Gause
Jake Jones
Kiya Hernandez
Alicia Linden
Liz Avalos
Khailun Spears
Christina Romo
Katie Garabedian
maile hynson
Kristopher Goyette
Douglas J Smith
Natividad Galvan
Banks Harper
Kathee Boyer
destiny castaneda
Michael Zupanovich
Kathy Alvarez
Autumn Linney
Janet Braslow
Isaiah B
Gagan Chahal
Amy Johnstad
Jenny Yang
Diane McAulay
diane mcaulay
Kim Bee
Angelina Esquivel
Tawny Esquivel
Alan Petersen
Steve Tabor
Marcia Melnikoff
KaranVeer Mangat
Ryan Jessup
Brittany Friend
candace stroup
Nicole Ton
Maddox J
William Alberto
Linda Skinner

Gary Skinner
Kathleen Laurin
Carol Writer
Thomas Writer
Melissa Going
Nancy Jones
Susan Lyneis
Sergio Solis
Donna Kalez
Michelle Zides
Jonathan Braslow
david Gitis
Gage Barr
Ginger Ralston
Ida Spear
Bryant Brinkman
Phyllis Levine
John Good
Bayley Ambrose
Rashed Choudhury
Mesay Eijgu
Shannon Anderson
jim ostach
Cory Rieth
Sandbar Orr
Pamela Secor
Bonnie Scidmore
Simon Beresten
Opaljean Breshers
Jane Brooks
Elise Erva
Afriasia Bermúdez-Crespín
Mary Jo Conrad
Jref McLean
Carol Reynolds
Caroline Davies
Azucena Leiva
Aleksi Sorensen
Judy Campobasso
Megan Poltl
Edward Driscoll
paige bowman
Ann Hinchliffe
Joan Thomas-Spiegel
FRANCO PEREZ
Vanessa Garcia
Teri O'Keefe
Cheryl DeFrenza
Michael Smith
Kathy Smith

Cindy Barnes
Ilene Reinhart
Sandra Hernandez
Kelly Farlow
L Irene Richards
Tyrone Blackwell
Barak Berlin
Vanessa Stacey
Gary and Sue Maeder
Gary Tarplee
Debi Tarplee
Taylor Warren
Gary Bell
Deborah Hudson
Ronald m Jacobs
Jasmine Tuquero
Kim Wells
Sophia Deloughery
Jeffrey Teal
Ramona Duddleston
Peggy Morrison
Barbara White
joe mama
Austin Ward
Randoll Martinez
Jennifer Fraga
Nia Wallet
Kyle Tarplee
BRIAN DAWES
Kelly Mcmartin
Max Riley
Matt Hall
REED MCCLINTOCK
Evelyn Arnold
Jamie Bechtold
Ben Bechtold
Anastasia Usenko
Andy Hajek
Christian Lerma
Dakota Reed
Marina Gemilere
BONNIE PARK
Gayland Park
Tom Connaughton
James Mathwig
James Connaughton
Preston David
linda kelley
Alan Kelley
Jeff Kelley

Judith Hamilton
Pat & Roberta O'Toole
Cynthia Austin
Maryann Lintz
Teresa Ventresco
Ryan Mckenzie
Hilary dungan
Mary Kay and Hal Hill
Sandra Chan
Sandra Case
Joseph Franco
Deena Franco
Heidi Bylsma
Jesse Franco
Melanie Davis
Matt Bryson
Jerry Gaines
Debra Santa cruz
Bakhturidze Ia
Virginia Jurek
Dennis and Susan Mansfield
Susan Miller
Palmer Daniel
Louis Kridle
Wendy Jones
Mary Giani
David Giani
John F Kreyssler
Heather Alexander
Adam Lemus
Yvonne Bastedo
David Bastedo
Hannah Mansfield
Lorraind Gaines
Leslie Palmer
kylie green
Dale Menadue
Victoria Johnson
Iryna Shvydchenko
Colin Mansfield
Shannan McKenzie
Zed Trick
Selita Burris
Anna Palmer
Peter Engler
Arnold R. Wilkins
Ron Hust
Kathleen Nielson
David Hansen
Kathy chapman

Leeanne Quick
Kimberly Hust
Barb Read
Robert Frederickd
Tammy Wangberg
Stephen Woodard
Angelique Bonacci
Richard Pelouze
KIRSANOVA KATERYNA
Morgan Deweerd
Meg Roe
Bruce Arnheim
Sumi Arnheim
Mike Flynn
Edmond Tamas
Carey Singletary
Mary Schickling
Claudia Canby
zariah mahoi
RICHARD RUPPERT
Alan Johnson
Keith Boutillier
Harvry Wills
Brad Stein
Wendy Hein
Jackie Sewell
Jennefer Collins
Linda Hermon
Ryan Sewell
Michael Packard
Kathy Arman
Lauren Johnson
nicholas and barbara de nisi
Cheryl Reynolds
Jill Steigerwald
Kylie Arman
FELICIA MICHELL
Mark Robinson
Marla Berkey
Kyle Van Buskirk
Nicole Paynter
Susan Mansfield
Adam Kaluba
Shanna Gibbs
Kent Ruppert
Bill Sewell
James Henson
Patsy Nydam
Rachel Dorn
Melissa Tieman

Paula Clare
Kimberly Arzate
Valeriia Blunt
Sirenia Moreno
Blanny Avalon Hagenah
Richard Woodward
Phil Hagenah
Kathleen Smith
Janet Hadeen
Lisa Fauria
Anna Duncan
Debbie Stea
Susan Hagenah
Margaret Trotter
esteban devega
Trey Hardin
Barbara Kraus
Jonny West
Alondra Espinoza
Robert Woolley
Eryn Beck
David Skoff
Jennifer Baker
Starr Bradley
Pia Miller
Connie Silva
Christy Westphal
Joe Torbarina
Tasha Alons
Kirstn Daluisio
Nadia Hi
Deborah Beardsley
Brad Baker
Dana Hagenah
Leah Bostrom
Bill Bostrom
Jacob Bechtold
Lauren Richardson
Bill McDannel
Marisa Brown
Alex Hagenah
Bambi Dinsmore
Gayle Cinnamon
Rebecca Boyle
Kathryn Reed
Jessica Hagenah
PATRICK HENEHAN
Anita Hecht-Parker
Karen Cropper
Michael Mucho

Sheryle Fipp
Susan Rikalo
Joshua Curphey
Kevin Cloud
JOHN HAGENAH
Alexander Shonjani
Austin Trinkle
Amanda Bombard
Julia Torbarina
Juan albarenga
Venice Palermo
Kathleen Vojkovich
Wendy Adams
Marc Stutman
david Thompson
Heather Moore
William Levy
Corey Thompson
Mary Beth Eroen
Ron Eroen
Bobbi Di Benedetto
patty thompson
patty thompson
Rachel Moore
Jennifer Monroe
Erin Thompson
Genny Cameron Cameron
Adam Bechtold
Karen Farren
William Hagenah
Patricia Hagenah
Kelli Kennedy
Karen McClory
Lori Montgomery
William Kelleghan
Francisco Arellano
Jana Brown
Lynn Henninger
Melissa Carver
Bryce Bray
Sharon Filbey
Anna Platt
Linda Larson
Laurie Meyers
David Hancock
Pete Hawkins
Lisa Michels
Mariluz Fornias
Joseph Bertoldo
Bradley Benjamin

Getz Barrie
Sandra Palomar
Amanda Sarabia
Andrea Carlson
neil cohn
Miranda Borg
Michael Fell
Adrian Aguilera
Aileen Aguilera
Matthew Smathers
Kathy Jacob
Mike Halim
Danielle Koff
Shannan Stevens
Ruiz Mark
Steve Lindsay
Karen Gee McAuley
Kayla Hartwell
Iisa Gonzales
Michael sutherland
Bobby Boston
Patrick Chandler
Kelly Clark
Theresa Dunaway
Leah McCune-Keeline
SHANNON ROARK
Hemina Lilani
Jeff Willard
Anthony Pelosi
Lena Elfmont
Eric Miller
Jason Boland
Judith Purdy
Tyler Kreil
Dawn Furfey
Gary Pendleton
Wade Pegram
Annie MacAulay
Robert Davenport
Jennifer Kreil
ryanne Lay
Ann Doyle
Dorothy Patrick
Steve Perkins
Shawna Harrison-Stradling
Bridget Doyle
Adelwisa Gelle
Henry Liao
Kathryn Doyle
Elizabeth Gay

Raymond Parejo
James Streip
Angela Hughes
Mary Doyle
Melanie Williams
John Packwood
Kristen Terry
Matt Logan
Amanda Sandoval
Dana Kalima
Peter Hanley
Jana Martinez
Gail Caple
Carrie Buchan
Anthony Mardesich
Kristen Ramsey
Jason Sherwin
Richard Ritter
Lidia Palma
Kari Turner
Michael Damian Nesel
Andrew Miller
Samuel Clemens
Derek Harris
Lindsay Magnall
Lori Franco
Jennifer Martinek
Jim Lewis
Mary Downey
Debra Bachman
SHANNON FRENCH
Rachelle Smoltz
Michelle Lujano
Maria Atencio
JUNG-HAN HSIEH
Kelly Gates
Richard Salazar
Brian Russell
David Masuda
Tara Riggi
Donald Dockery
Jayne Sampson
Sam mason
Angelica González
Jamie Haggerton
Alice Hernandez
Delana Lopez
Jon McMullen
Tommy Munoz
Roy Heumann

Kymerly Bednar
Francois Brand
Jose Avalos
Danielle Reinert
Chris Pierce
William Blaty
Steve Carrico
Richard Blaty
George Szalankiewicz
Terrence Robinson
Lorita Garcia
Chris Allen
Thomas Blaty
Kevin Blaty
Doug Lord
Michael Hernandez
John DZamba
Gabriel Ruppert
Kimberly Ruppert
Paul Zeko
David Awalt
Charissa Zeko
Nilda Langston
Samantha Mehlinger
Frederick Mackey
Coby Spielmann
Jayme Wilson
Melissa Lockerman
Mary sramek
Dawna Fay
Trevor Rebolo
Florita Davis
Aaron Cohn
Andre Anglès
Steve Goodling
Hallie Jane Culpepper
Lance Enos
Silvano Merlo
Iris Himert
Mary Ellen Mitchell
Daniel Lipton
Anne Renken
john Thompson
jack tucey
Lauren Mayne
Kenya Bannister
Shannon Yates
Matt Jolliffe
Alex Magnall
Roxanne Rutherford

Michael Mitchell
Mary Jane Myers
Jamie Robinson
Mooyon Kim
Erin Timmons
Leo Castilleja
Neil Hirsch
Steve Lowery
Joan Cantarelli
IMRAN AHMED
Luke Somerset
Joseph Jenci
Courtney Russell
William Chastain
Sandy Hensley
Joanne Hirsch
Matt Fukushima
Jane Netherton
Gabrielle Garcia
David Sommers
Ann Kuns
Sid Ramani
Danielle Osterlind
Troy Karnoff
Mary Burke
Robin Crocker
Martin Knoblowitz
Carmine Malanga
Siobhan Rathband
Marcelle Epley
Martin Samaniego
laurence jackson
Yvonne Bailey
jean hartman
Charles Beirne
Todd Lemmis
Mark Freiburghouse
Shannon White
Ann Cheung
Douglas Miyamoto
Jim Michaelian
Allison Lesser
Francia Brice
Claudia Saravia Mora
Steve Dunnegan
Greg Guthrie
Lana Farfan
Heather Sedlacek
Kathleen Utter
Randy Hill

Giovanni Almaraz
Stephanie Meikle
James Ezell
alexis weisser
Audriana Vojkovich-Bombard
Stefano Enjem
Jaclyn Ma
Brian Dempsey
Kelsey Cohen
Mayra Herrera
Naveen Cheetysh
Rachel Jillings
Megan Garcia
Elizabeth Bress
Mona Tannous
Trinity Pfeifer
Julia Stapleton
Anh Ligutom
Alicia Cozzie
Emily Gonzales
Alan Vojkovich-Bombard
Alyssa Rake
Christian Garcia
Rachel Tash
Thomas Gill
Clint Engel
Megan Gill
morgan boultinghouse
diane boultinghouse
Natasha Burch
Oskar Casillas
Ryan Gill
Kristen Romero
Jose Luis Leon
Elayne Gonzalez
Kailee Gonzalez
William Fitzpatrick
Adri Sakr
Deborah Shepard
Veronica Quintero
Guadalupe Sanchez
Travon Jones
Darlene Sanchez
Constance Williams
Mary Conover
Misi Tagaloa
Greg Ward
Brian Boultinghouse
Kathryn Scull
Stephanie Baker

Victoria Pepper
Derrah Fuller
Alexis Nam
Jeff Forney
Jane Conover
Lori Elgayar
Michelle Ares
Jackie Forney
Laurie Gray
Denise Landon
Jackson Blaty
John Massey
Larry Paige
Cynthia S
William Clark
Anastasiia Varavina
Derek Stockton
Caroline Calleros
Maureen Clampitt
Philip Gonshak
Luis Savastano
Cassandra Rieck
Kimberly Evans

Comment Log Display

Here is the comment you selected to display.

Comment 29 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name	Harry
Last Name	Simpson
Email Address	harry.simpson@crimsonrenewable.com
Affiliation	Crimson Renewable Energy
Subject	Proposed Amendments to Commercial Harbor Craft Regulations

Comment

Please see attached comments for submittal to the Docket.

Attachment	www.arb.ca.gov/lists/com-attach/3727-chc2021-BWYGb1c7WWdXNAVr.pdf
Original File Name	Comments on Mamendments to Commerical Harborcraft Regs _032422.pdf
Date and Time Comment Was Submitted	2022-03-24 10:03:40

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)



17731 Millux Road
Bakersfield, CA 93311
Tel: (661) 617-8620
Fax: (661) 617-8615

Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Comments on Proposed Amendments to the Commercial Harborcraft Regulation

Dear Chair Randall and Members of the Board:

I'd like to thank the members of the Board for the opportunity to comment on the proposed Commercial Harbor Craft (CHC) regulation.

My company, Crimson Renewable Energy, is the largest producer of biodiesel in California, and for nearly a decade has consistently produced over 50% of all the biodiesel produced in California. We play a significant role in helping California and our customers decarbonize challenging transportation emission sectors such as heavy-duty trucking, rail, and agriculture and construction equipment. Crimson and the biodiesel industry can play similar role in her marine sector, to decarbonize and reduce harmful particulate matter and hydrocarbon emissions associated with Marine fuels.

As members of the Clean Fuels Alliance of America (formerly National Biodiesel Board) and the California Advanced Biofuels Alliance (CABA), we wish to align ourselves with the comments they have submitted as well as comments submitted by Renewable Energy Group Inc.

In particular, we would like to highlight one specific part of the proposed amendments to the Commercial Harbor Craft Regulation.

We are disappointed by the tenor and tone taken towards biodiesel within Appendix E section V(A) Biodiesel (page E52 – E54), especially in light of the fact that Air Resources Board has approved biodiesel for in-state usage for over a decade and has seen over 1.4 billion gallons come to California since 2011. Additionally, we find very problematic the factual mis-statements and outdated information contained in Appendix E. There is no evidence in existing scientific evidence that supports the claim made in Appendix E "...biodiesel, which is a methyl ester compound that should not be used in high quantities with retrofit aftertreatment." This language should be removed. Many, if not all, of the claims made about biodiesel are simply wrong and/or based upon outdated studies from 2006-2012 that are no longer relevant nor accurate in light of new data. Thus, we request that the section on biodiesel be deleted from Appendix E

Sincerely,

Harry Simpson
President and CEO
Crimson Renewable Energy, LLC

Comment Log Display

Here is the comment you selected to display.

Comment 30 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name	Ashley
Last Name	Kristensen
Email Address	ashley@angelislandferry.com
Affiliation	Angel Island Tiburon Ferry Inc.
Subject	Short Run Ferry Definition

Comment

Please change the definition of a short-run ferry in the proposed harborcraft regulations so that a boat that operates with a diesel engine cannot add multiple legs or add one long leg in order to avoid the requirements that a short-run ferry be zero emission. As written, the regulations will cause boat operators to game the regulations by running more and longer routes and this will increase CO2 emissions by thousands of tons in the Bay Area and this is wrong. Zero-emission regulations should reduce CO2 emissions not increase them. Please make it that everyone running a vessel on a short-run route has to follow the same regulations and be zero-emission without loopholes. That's only fair and also will ensure the proposed regulations reduce CO2 emissions created by ferries in the San Francisco Bay.

Attachment**Original File Name**

Date and Time Comment Was Submitted	2022-03-24 10:06:04
--------------------------------------------	---------------------

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)

Comment Log Display

Here is the comment you selected to display.

Comment 31 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name	Simone
Last Name	Lee
Email Address	simoneylee@gmail.com
Affiliation	yyyy
Subject	Short-run ferry definition

Comment

Please change the definition of a short-run ferry in the proposed harborcraft regulations so that a boat that operates with a diesel engine cannot add multiple legs or add one long leg in order to avoid the requirements that a short-run ferry be zero emission. As written, the regulations will cause boat operators to game the regulations by running more and longer routes and this will increase CO2 emissions by thousands of tons in the Bay Area and this is wrong. Zero-emission regulations should reduce CO2 emissions not increase them. Please make it that everyone running a vessel on a short-run route has to follow the same regulations and be zero-emission without loopholes. That's only fair and also will ensure the proposed regulations reduce CO2 emissions created by ferries in the San Francisco Bay.

Attachment**Original File Name**

Date and Time Comment Was Submitted	2022-03-24 10:07:37
--------------------------------------------	---------------------

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)

Comment Log Display

Here is the comment you selected to display.

Comment 32 for Proposed Amendments to Commercial Harbor Craft Regulation (chc2021) - 45 Day.

First Name Scott
Last Name Merritt
Email Address scott@merrittws.com

Affiliation

Subject CHC Rulemaking

Comment

See Attached.

Attachment www.arb.ca.gov/lists/com-attach/3732-chc2021-AGNcMIMxUV0AZQIm.pdf

Original File Name CHC Comments 2022-03-24.pdf

Date and Time Comment Was Submitted 2022-03-24 10:18:24

If you have any questions or comments please contact Clerk of the Board at (916) 322-5594.

[Board Comments Home](#)



California Air Resource Board

Attn: Clerk of the Board
P.O. Box 2815
Sacramento, CA 95812

Dear Board Members:

Thank you for the opportunity to comment on the California Harbor Craft Rulemaking process. My name is Scott Merritt, and I've spent my entire 39-year professional career serving the tug and barge industry. I've served as the Chief Operating Officer of Foss Maritime, Chairman of the Board of AWO, and Vice Chair of the Harbor Safety Committee of the San Francisco Bay Area. I have been involved in multiple rule-making process through my years, and have spent the last three years supporting Foss, her sister companies and AWO members in attempting to understand these regulations, and to provide meaningful input to CARB staff in support of a responsible regulation.

Unfortunately, these efforts have failed as the proposed rules, for which you are scheduled to vote today, are anything but responsible. The rule as written will be difficult, "if not impossible", to comply with, challenging to administer and enforce, disruptive to the flow of commerce, lead to the loss of living wage jobs and most importantly be counter-productive to the goal of achieving zero-emissions as soon as possible.

Because I know your time is valuable, I'm going to start with an ask and provide you the support for them afterwards. We ask that you allow low emission, Tier 3 and Tier 4 engines, to operate without modification for their useful life of 25 years from the Engine Model Year (EMY). When adjusting for the useful life of the vessels, this is consistent with the CARB regulations governing Class 8 trucks. In exchange vessel owners would agree to remove the vessels from service at the 25-year point and either a) replace it with a new zero emission tug, b) convert the existing tug to zero-emission technology, or c) contribute \$1 million dollars per engine to fund other Zero-Emission tug projects. This would all but guarantee the steady transformation of the harbor towing fleets in California from diesel to zero emission technology starting in the early 2030's and completing by the mid 2040's. Short of this, we'd at least ask for the same pathway considerations for towing vessels as Resolution 22-6 provides Commercial Passenger Fishing Vessels.

3392.1

Why? Because the process has ignored the realities of our industry and has created an irresponsible piece of regulation. CARB staff lacks the subject matter expertise to understand the nature of our

3392.2

operations and the technological limitations of installing unproven and unapproved devices on our vessels. The comment and outreach process, critical to any rulemaking process, is intended to provide regulators with this understanding. While staff would lead you to believe this took place, **it has not.** Our comments and input to staff were all but completely ignored and the intent of the comment periods were undermined by sloppy staff work. I will highlight the CARB staff’s responses that demonstrate the failure in the process.

3392.2
(cont.)

- CARB staff continues to compare tugboats to cars and trucks that have documented lifespans of less than 13 years. Tugboats have an average lifespan of well over 40 years, with engines often last the age of the tug. The regulations for Class 8 trucks take life cycle into account. These trucks were granted a minimum of 9 and a maximum of 16 years from their EMY to implement DPF technology, and 14 – 21 years to upgrade to the latest tier requirements. This against a vehicle life of 13 years. We are only asking for a 25-year compliance date against an average life span of 40 years.
- CARB staff keep pushing that they’ve offered up to 3, 2-year extensions, potentially giving qualified owners up to 6 years to comply. Unfortunately, 2-year increments do not work for our industry. Developing an approval package for United States Coast Guard and our vessel class society (as required by federal law) takes upwards of a year to complete. Only then can you begin putting together the final drawings, engineering plans and solicit bids for equipment. This takes months, if not years to implement and then a shipyard must be sourced. As we’ve explained numerous times, by federal regulation, marine maintenance is generally governed in 5-year cycles and nothing short of a 5-year extension interval will prove helpful to industry. Staff does not understand the impact of trying to install a yet to be designed, much less approved DPF on a vessel only a couple of years of planning time. It is analogous telling someone in Los Angeles that you will provide them 2 hours’ notice on when to be in New York City.

3392.3

- Particularly concerning to industry is the risk to mariners of rushing the implementation of technology that is unproven. One only need to google “DPF and Fire” to see multiple examples of trains, cars and trucks that burnt to the ground because of DPF implementation. A key component of eliminating this risk is not implementing the technology until it is approved and tested in a controlled environment. DPFs are not currently available or approved for the engines or vessels use. It will take years after they are to ensure they are safe to use in a marine environment and that a particular vessel can be properly altered to handle the weight and heat issues inherent to these systems. Unlike truck drivers, mariners can’t walk away from a burning vessel, they must stay and fight for their lives.

3392.4

- CARB has stated that there is a significant under-reporting of hours among towing vessels. From the start of this process CARB has grossed up towing vessel hours by between 29% and 36%. The original basis for CARB Staff’s actions was information gathered from an USCG database. When AWO provided evidence that demonstrated the database was an inaccurate and inappropriate tool for that purpose, CARB staff claimed they no longer relied on it. But they continue to inflate the numbers and have offered no explanation beyond “other sources” and “they talked with industry”. Further, they have tried to write off AWO’s input claiming we used AIS data and the fact that some vessels do not carry AIS. While true, they neglected to point out that we provided evidence that AIS identified over 92% of towing vessels that “could” have operated in California waters, and of those that don’t carry AIS, are smaller vessels, most less than 26’ long. AWO provided numbers that including the vessels without AIS that “may” have operated in California AWO demonstrated

3392.5

that the vessel population, and corresponding emissions were inflated in each category of vessels. Specifically,

3392.5
(cont.)

- ATBs by 36%. Only 14 ATBs, not the 19 in CARBs data called in both 2019 and 2021.
- Escort Tugs by 15%. Only 55 Ship Assist and Escort tugs, not the 63 in CARBS data operated in the referenced years.
- Tugboat-push/tow by 70%. We found 143 tugboat-push tow operated, 124 identified with AIS. CARB estimates showed nearly the same number of vessels but attributed over 1.7 times (70%) more operating hours, and thus 70% emissions. The hour estimates by AWO were supported by detailed AIS data, CARBs estimates were not based on any supporting data.
- Finally, we'd point out that CARB staff made an error in labeling their data set released during the open comment period in the fall of 2021. This error not only cost us an opportunity to assess the efficacy of the emission and health study, but also wasted thousands of dollars and all the hundreds of hours of resources we put into the effort. What we found especially egregious was in their response they blamed our consultant for the mistake and did not acknowledge their own error. Such an error should have invalidated the comment period and restarted the clock. You as Board members should appreciate the unfairness of this situation and should be offended that staff chose to intentionally leave their error out of the response. Ramboll compared the model data provided by CARB staff, labeled as PM, to actual PM figures from shore-based sampling points. CARB staff rightly pointed out in their response to our comments, that Ramboll instead compared modeled cancer risk (in chances per million) to ambient PM_{2.5}.

3392.6

Thank you for your time and attention. We the towing industry are as committed as CARB to achieving zero emission in as safe and expedient manner as possible. But the rule as written will only serve to drive responsible companies out of California and discourage anyone from investing in California. We urge you to be responsible regulators and implement rules that are practical and that focus on zero emission as the goal. Should you have any questions or would like more detail on what we have shared today, or previously to CARB staff, I can be reached at the number and email below.

Sincerely,



Scott Merritt
scott@merrittws.com
(206) 214-6042

Cc: Peter Schrapen, VP Pacific Region for AWO
Lynn Muench, SVP Regional Advocacy for AWO

VIDEOCONFERENCE MEETING
STATE OF CALIFORNIA
AIR RESOURCES BOARD

ZOOM PLATFORM

THURSDAY, MARCH 24, 2022

9:01 A.M.

JAMES F. PETERS, CSR
CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 10063

APPEARANCES

BOARD MEMBERS:

Liane Randolph, Chair

Sandra Berg, Vice Chair

John Balmes, MD

Hector De La Torre

John Eisenhut

Senator Dean Florez

Assemblymember Eduardo Garcia

Davina Hurt

Gideon Kracov

Senator Connie Leyva

Tania Pacheco-Werner, PhD

Barbara Riordan

Supervisor Phil Serna

Dan Sperling, PhD

Diane Takvorian

Supervisor Nora Vargas

STAFF:

Richard Corey, Executive Officer

Edie Chang, Deputy Executive Officer, Planning, Freight,
and Toxics

Chanell Fletcher, Deputy Executive Officer, Environmental
Justice

APPEARANCES CONTINUED

STAFF:

Annette Hebert, Deputy Executive Officer, Southern California Headquarters and Mobile Source Compliance

Edna Murphy, Deputy Executive Officer, Internal Operations

Rajinder Sahota, Deputy Executive Officer, Climate Change and Research

Craig Segall, Deputy Executive Officer, Mobile Sources and Incentives

Ellen Peter, Chief Counsel

Heather Arias, Division Chief, Transportation and Toxics Division (TTD)

Matthew Botill, Division Chief, Industrial Strategies Division (ISD)

Richard Boyd, Assistant Division Chief, TTD

Maureen Hand, Air Resources Engineer, Climate Change Planning Section, ISD

Tracy Haynes, Staff Air Pollution Specialist, Freight Technology Section, TTD

Melissa Houchin, Air Resources Engineer, Freight Technology Section, TTD

Stephanie Kato, Staff Air Pollution Specialist, Energy Section, ISD

Shelby Livingston, Manager, Program Operation Section, ISD

Gabriel Monroe, Senior Attorney, Legal Office

Adam Moreno, Staff Air Pollution Specialist, Program Operation Section, ISD

David Quiros, Manager, Freight Technology Section, TTD

Jordan Ramalingam, Air Pollution Specialist, Fuels Evaluation Section, ISD

APPEARANCES CONTINUED

STAFF:

Bonnie Soriano, Branch Chief, Freight Activity Branch, TTD

Alex Wang, Senior Attorney Legal Office

Alex Yiu, Staff Air Pollution Specialist, Program
Operation Section, ISD

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY:

Secretary Jared Blumenfeld

ALSO PRESENT:

Sarah Aird, Californians for Pesticide Reform

Joy Alafia, Western Propane Gas Association

Tom Babineau, Rypos

Graham Balch, Green Yachts

Rebecca Baskins, California Advanced Biofuels Alliance

Christine Batikian, Port of Los Angeles

Shawn Bennett, Baydelta Maritime, LLC

Sylvia Betancourt, Long Beach Alliance for Children with
Asthma

Michael Breslin, American Waterways Operators

Steven Brink, California Forestry Association

Teresa Bui, Pacific Environment

Jennifer Case, New Leaf Biofuel

Connie Cho, Communities for a Better Environment

Max Cohen, Curtin Maritime Corp.

APPEARANCES CONTINUED

ALSO PRESENT:

Dave Cook, Rail Propulsion Systems

Jon Costantino

Charles Davidson, ICSR

Sarah Deslauriers, California Association of Sanitation Agencies

Jerry Desmond, Recreational Boaters of California

Jaime Diamond, Stardust Sportfishing

Martha Dina Argüello, Physicians for Social Responsibility, LA

Harvey Eder, Public Solar Power Coalition

Evan Edgar, Edgar & Associates, Inc.

Tim Ekstrom, Royal Star Sportfishing

Supervisor Nathan Fletcher, San Diego County

Ken Franke, Sportfishing Association of California

Tim French, Truck and Engine Manufacturers Association

Catherine Garoupa White, PhD, Central Valley Air Quality Coalition

Josh Gaylord

Elliot Gonzales, Sierra Club

Richard Grow

Lauren Gularte, Water Emergency Transportation Authority

Leah Harnish, American Waterways Operators

Scott Hedderich, Renewable Energy Group

APPEARANCES CONTINUED

ALSO PRESENT:

Julie Henderson, Director, California Department of Pesticide Regulation

Jim Holden, Fish for Life

Matt Holmes, Little Manila Rising

Regina Hsu, Earthjustice

Gary Hughes, Biofuelwatch

Greg Hurner, Hurner Government Relations and Advocacy

Virginia Jameson, Deputy Secretary, California Department of Food and Agriculture

Steve Jepsen, Southern California Alliance of Publicly Owned Treatment Works

Kristin Joseph, RE Site Engineering, Inc.

Donna Kalez, Dana Wharf Sportfishing

Ryan Kenny, Clean Energy

Ameen Khan, California Environmental Voters

Wayne Kotow, Coastal Conservation Association of California

Nilda Langston

John Larrea, California League of Food Producers

Julia Levin, Bioenergy Association of California

Andrea Lueker, California Association of Harbor Masters and Port Captains

Rick Luliucci, The Vane Brothers Company

Jim Luttjohann, Love Catalina Island, Catalina Island Tourism Authority

APPEARANCES CONTINUED

ALSO PRESENT:

Ryan Mack, MP Strategic Group

Bill Magavern, Coalition for Clean Air

Paul Mason, Pacific Forest Trust

Julia May, Communities for a Better Environment

David McCloy, San Francisco Bar Pilots

Barry McCooey, M&H Engineering

Art Mead, Crowley Maritime

Jeanne Merrill, California Climate and Agriculture Network

Scott Merritt, Merritt Waterline Solutions

Jacqueline Moore, Pacific Merchant Shipping Association

Lynn Muench, The American Waterways Operators

Graham Noyes, Low Carbon Fuels Coalition

George Peridas, Lawrence Livermore National Laboratory

Rick Powers, Golden Gate Fishermen's Association

Ernie Prieto, Oceanside Sea Center

Leela Rao, Port of Long Beach

David Reynolds, PTL Marine

Will Roberts, Foss Maritime

Max Rosenberg, Vane Line Bunkering, LLC

Laura Rosenberger Haider

Mariela Ruacho, American Lung Association

Peter Schrappen, American Waterways Operators

APPEARANCES CONTINUED

ALSO PRESENT:

Harry Simpson, Crimson Renewable Energy Holdings

Mikhael Skvarla, California Council for Environmental and Economic Balance

Richard Smith, Westar Marine Services

Steven Smith, Phillips 66

William Smith, Riptide Charters

Robert Spiegel, California Manufacturers and Technology Association

Misagh Tabrizi, Nett Technologies

Sharifa Taylor, Communities for a Better Environment

Alison Torres, Eastern Municipal Water District

Frank Ursitti, H&M Landing

Jim Verburg, Western States Petroleum Association

Floyd Vergara, Clean Fuels Alliance America

Virgil Welch, California Carbon Capture Coalition

Sam Wilson, Union of Concerned Scientists

INDEX

	<u>PAGE</u>
Call or Order	1
Roll Call	1
Opening Remarks	2
Item 22-5-1	
Chair Randolph	5
Executive Officer Corey	9
Staff Presentation	11
Supervisor Nathan Fletcher	29
Ken Franke	31
Jaime Diamond	34
Sam Wilson	36
David Reynolds	37
Richard Smith	39
Ameen Khan	41
Christine Batikian	42
Jacqueline Moore	44
Jim Holden	46
Peter Schrappen	47
Regina Hsu	49
Ernie Prieto	51
Jerry Desmond	52
Lauren Gularte	53
David McCloy	55
Donna Kalez	56
Tim Ekstrom	59
Shawn Bennett	61
Barry McCooey	63
Art Mead	65
Leela Rao	66
Scott Merritt	69
Rick Powers	70
Wayne Kotow	72
Kristin Joseph	73
Steven Brink	74
Jim Luttjohann	76
Max Cohen	78
Will Roberts	80
Elliot Gonzales	82
Leah Harnish	83
Lynn Muench	85
Rick Luliucci	86
Graham Balch	88

INDEX

	<u>PAGE</u>
Item 22-5-1 (continued)	
Michael Breslin	90
Max Rosenberg	92
Rebecca Baskins	94
Misagh Tabrizi	95
Frank Ursitti	96
Andrea Lueker	98
Dr. Catherine Garoupa White	99
Bill Magavern	101
Mariela Ruacho	102
Floyd Vergara	103
Teresa Bui	105
Tom Babineau	107
Matt Holmes	109
Jennifer Case	111
Nilda Langston	113
Sylvia Betancourt	114
Harvey Eder	116
William Smith	118
Tim French	119
Harry Simpson	120
Josh Gaylord	122
Scott Hedderich	124
Greg Hurner	126
Ryan Mack	127
Staff Comments	129
Board Discussion and Q&A	132
Motion	160
Vote	160
Afternoon Session	162
Item 22-5-2	
Chair Randolph	162
Executive Officer Corey	166
Staff Presentation	168
CalEPA Secretary Jared Blumenfeld	202
CDFA Deputy Secretary Virginia Jameson	208
CDPR Director Julie Henderson	210
Martha Dina Argüello	215
Sharifa Taylor	218
Connie Cho	220
Dr. Catherine Garoupa White	225
Matt Holmes	228
Jim Verburg	232
Richard Grow	234

INDEX

	<u>PAGE</u>
Item 22-5-2 (continued)	
Joy Alafia	237
Jeanne Merrill	239
Mariela Ruacho	240
Virgil Welch	241
Ryan Kenny	244
Evan Edgar	245
Julia Levin	248
Mikhael Skvarla	250
Steve Jepsen	253
George Peridas	255
Paul Mason	257
Graham Noyes	259
Sarah Deslauriers	261
Jon Costantino	264
Gary Hughes	266
John Larrea	268
Charles Davidson	270
Sarah Aird	272
Robert Spiegel	275
Steven Smith	277
Alison Torres	279
Julia May	282
Board Discussion and Q&A	284
Public Comment	
David Cook	325
Harvey Eder	327
Laura Rosenberger Haider	330
Adjournment	331
Reporter's Certificate	332

PROCEEDINGS

1
2 CHAIR RANDOLPH: Thank you very much. Good
3 morning. The March 24th public meeting of the California
4 Air Resources Board will come to order.

5 Board Clerk, will you please call the roll?

6 BOARD CLERK ESTABROOK: Yes.

7 Dr. Balmes?

8 BOARD MEMBER BALMES: Here.

9 BOARD CLERK ESTABROOK: Mr. De La Torre?

10 Mr. Eisenhut?

11 BOARD MEMBER EISENHUT: Yes, here.

12 BOARD CLERK ESTABROOK: Senator Florez?

13 BOARD MEMBER FLOREZ: Florez, here.

14 BOARD CLERK ESTABROOK: Assembly Member Garcia?

15 Ms. Hurt?

16 BOARD MEMBER HURT: Present.

17 BOARD CLERK ESTABROOK: Mr. Kracov?

18 BOARD MEMBER KRACOV: Here.

19 BOARD CLERK ESTABROOK: Senator Leyva?

20 Dr. Pacheco-Werner?

21 BOARD MEMBER PACHECO-WERNER: Here.

22 BOARD CLERK ESTABROOK: Mrs. Riordan?

23 BOARD MEMBER RIORDAN: Here.

24 BOARD CLERK ESTABROOK: Supervisor Serna?

25 BOARD MEMBER SERNA: Here.

1 BOARD CLERK ESTABROOK: Professor Sperling?

2 BOARD MEMBER SPERLING: Here.

3 BOARD CLERK ESTABROOK: Ms. Takvorian?

4 BOARD MEMBER TAKVORIAN: Here.

5 BOARD CLERK ESTABROOK: Supervisor Vargas?

6 BOARD MEMBER VARGAS: Vargas, here

7 BOARD CLERK ESTABROOK: Vice Chair Berg?

8 VICE CHAIR BERG: Here.

9 BOARD CLERK ESTABROOK: Chair Randolph?

10 CHAIR RANDOLPH: Here.

11 BOARD CLERK ESTABROOK: Madam Chair, we have a
12 quorum.

13 CHAIR RANDOLPH: Thank you very much.

14 I'd like to begin with a house -- few house
15 keeping items. In accordance with Assembly Bill 361, as
16 extended by Governor Newsom's Executive Order N-1-22, we a
17 are today's meeting remotely using zoom with public
18 participation options available both by phone and Zoom.

19 A closed captioning feature is available for
20 those of you joining us in the Zoom environment. In order
21 to turn on the subtitles, please look for a button labeled
22 CC at the bottom of the Zoom window, as shown in the
23 example on the screen now. I would like to take this
24 opportunity to remind everyone to speak clearly and from a
25 quiet location, whether you are joining us in Zoom or

1 calling in by phone.

2 Interpretation services will be provided today in
3 Spanish. If you are joining us using Zoom, there is a
4 button labeled "Interpretation" on the Zoom screen. Click
5 on that interpretation button and select Spanish to hear
6 the meeting in Spanish. I want to remind all of our
7 speakers to speak slowly to allow the interpreters the
8 opportunity to accurately interpret your comments.

9 (Interpreter translated in Spanish)

10 CHAIR RANDOLPH: I will now ask the Board Clerk
11 to provide more details on today's procedures.

12 BOARD CLERK ESTABROOK: Yes. Thank you, Chair.

13 Good morning, everyone. My name is Katie
14 Estabrook and I am one of the Board Clerks. And I will
15 provide some information on how public participation will
16 be organized for today's meeting. If you wish to make a
17 verbal comment on one of the Board items or during the
18 open comment period at the end of today's meeting, you
19 must be joining using Zoom webinar or calling in by phone.
20 If you are currently watching the webcast on CAL-SPAN, but
21 you wish to comment, please register for the Zoom webinar
22 or call in. Information for both can be found on the
23 public agenda for today's meeting.

24 To make a verbal comment, we will be using the
25 raise hand feature in Zoom. If you wish to speak on a

1 Board item, please virtually raise your hand as soon as
2 the item has begun to let us know you wish to speak. To
3 do this, if you are using a computer or tablet, there is a
4 raise band button. If you are calling in on the phone,
5 dial star nine to raise your hand. Even if you previously
6 indicated which item you wish to speak on when you
7 registered, you must raise your hand at the beginning of
8 the item, so that you can be added to the queue and so
9 that your chance to speak will not be skipped.

10 If you will be giving your verbal comment in
11 Spanish and require an interpreter's assistance, please
12 indicate so at the beginning of your testimony and our
13 translator will assist you. During your comment, please
14 pause after each sentence to allow the interpreter to
15 translate your comment into English. When the comment
16 period starts, the order of commenters will be determined
17 by who raises their hand first.

18 I will call each commenter by name and will
19 activate each commenter's audio when it is your turn to
20 speak. For those calling in by phone, I will identify you
21 by the last three digits of your phone number. We will
22 not be showing a list of commenters. However, I will be
23 announcing the next three or so commenters in this queue,
24 so you are ready to testify and know who's coming up next.
25 Please note that you will not appear by video during your

1 testimony.

2 I would also like to remind everyone to please
3 state your name for the record before you speak. This is
4 important in the remote meeting setting. And it is
5 especially important for those calling in by phone to
6 testify. There will be a time limit for each commenter.
7 That normal time is three minutes, though that could
8 change based on the Chair's discretion. During public
9 testimony, you will see a timer on the screen. For those
10 calling in by phone, we will run the timer and let you
11 know when you have 30 seconds left and when your time is
12 up. If you require Spanish interpretation for your
13 comment, your time will be doubled.

14 If you wish to submit written comments today,
15 please visit CARB's, "Send Us Your Comments", page or look
16 at the public agenda on our webpage for links to send
17 these documents electronically. Comments will be accepted
18 on each item until the Chair closes the item.

19 If you experience any technical difficulties,
20 please call (805)772-2715 so an IT person can assist you.
21 This number is also noted on the public agenda.

22 Thank you, Chair, I'll turn it back to you.

23 CHAIR RANDOLPH: Thank you.

24 The first item on the agenda today is Item
25 22-5-1, proposed amendments to the commercial harbor craft

1 regulation. If you wish to comment on this item, please
2 click the raise hand button or dial nine -- dial -- sorry,
3 dial star nine now. We will call on you when we get to
4 the public comment portion of this item.

5 Today, the Board will hear staff's proposal to
6 expand emissions-related requirements for commercial
7 harbor craft that operate in regulated California waters.
8 The proposed amendments would build on the current
9 Commercial Harbor Craft Regulation by expanding the
10 requirements to additional vessel types and proposing more
11 stringent engine performance standards, including
12 technology forcing zero-emission requirements for marine
13 vessels.

14 As the Board knows, California needs to continue
15 to reduce emissions from mobile sources in order to meet
16 critical community, clean air, and climate goals.
17 Achieving these goals will provide much needed public
18 health protection for the millions of Californians that
19 still breathe unhealthy air, reduce the public's exposure
20 to toxic air contaminants, and help meet California's
21 State Implementation Plan commitment to attain national
22 ambient air quality standards.

23 To attain these health-based standards, we must
24 reduce oxides of nitrogen in the South Coast Air Basin by
25 45 percent by 2023 and an additional 55 percent by 2031,

1 and an additional 70 percent by 2037. The proposed
2 amendments are additionally designed to reduce emissions
3 of greenhouse gases and are consistent with Governor
4 Newsom's Executive Order N-79-20, which directs CARB and
5 other State agencies to develop strategies to achieve 100
6 percent zero emissions from off-road vehicles and
7 equipment by 2035, where feasible.

8 This is the second of two Board hearings for the
9 proposed amendments. At our hearing in November, we heard
10 testimony from a range of stakeholders regarding this
11 regulation. Many stressed the importance of the health
12 benefits from these emissions reductions, while others
13 expressed concerns about potential negative impacts on
14 their businesses.

15 CARB staff listened to everyone carefully and
16 deeply, and at our direction, continued working with
17 stakeholders to identify ways to ensure that this
18 regulation can achieve the emissions reductions we need,
19 support the advancement of clean technology, and respond
20 to concerns raised by stakeholders.

21 Following up from that meeting, our staff met
22 with many stakeholders, and our office met virtually --
23 our Chair's office met virtually with other regulated
24 sectors. And as part of their work, CARB staff, along
25 with Mr. Corey and one of my senior advisors, traveled to

1 San Diego where they met with staff from San Diego Air
2 Pollution Control District, advocates from the
3 Environmental Health Coalition, and the local commercial
4 sports fishermen.

5 The trip allowed staff the opportunity to better
6 understand the challenges faced both by community
7 residents and the local commercial sports fishermen. As a
8 result of the continued dialogue and work of staff, I'm
9 confident that the regulation before us today will ensure
10 cleaner air in port communities across the state and do so
11 in a way that allows industry partners the time to not
12 only overcome key challenges, but also be partners in the
13 advancement of new cleaner technology.

14 The 15-day changes proposed by staff will provide
15 the commercial sportsfishing industry greater time to
16 implement cleaner engines and collaborate with CARB staff
17 to advance hybrid and zero-emission technologies.

18 Following today, staff will continue to consider
19 zero-emission contingency measures for commercial harbor
20 craft like tugboats to bring critical emissions reductions
21 to our state's most impacted communities.

22 Finally, I want to thank the legislators who have
23 engaged with me on this item, including Assembly Member
24 O'Donnell, former Assembly Member Burke, and Senator
25 McGuire. These partnerships and communications help build

1 better outcomes, such as the inclusion of a work group in
2 the proposed resolution as recommended by Senator McGuire,
3 and streamline compliance deadline extensions as
4 recommended by former Assembly Member Burke.

5 Mr. Corey, would you please introduce the item?

6 EXECUTIVE OFFICER COREY: Yes. Thanks, Chair.

7 In 2008, the Board adopted the initial Commercial
8 Harbor Craft Regulation which reduces emissions from
9 diesel engines on commercial harbor craft. The regulation
10 was amended in 2010 to include additional vessel
11 categories. And in 2017, the Board directed staff to
12 provide concepts to control pollution from large freight
13 facilities including seaports. In response to the Board
14 direction and projected public health benefits, staff has
15 developed the proposed amendments for your consideration.

16 The proposed amendments we're presenting to you
17 today further expand in-use requirements for commercial
18 harbor craft to more vessel categories, create more
19 stringent performance standards for diesel engines,
20 introduce mandates and incentives for zero-emission harbor
21 craft, and establish requirements for facilities to
22 provide supporting infrastructure and increased reporting
23 to CARB.

24 The proposed amendments reduce emissions of
25 criteria pollutants and toxic air contaminants in

1 communities near seaports, marinas, and harbors, where
2 residents are often disproportionately exposed to air
3 pollution. Many of these communities are AB 617 selected
4 communities and are recognized as disadvantaged due in
5 part to impacts from marine-related air pollution.

6 Reducing harbor craft related emissions helps to
7 reduce the cumulative exposure to toxic emissions and is
8 critical to meeting California's federal clean air
9 standards.

10 That being said, we acknowledge and recognize
11 that what is proposed will be challenging for some
12 California businesses, especially certain small
13 businesses. As such, we followed Board direction from the
14 November hearing and are reporting back. Staff has
15 conducted extensive outreach since we were last in front
16 of you for this item, including a four-and-a-half hour
17 webinar to discuss incentive opportunities and ways to
18 respond to your direction, and as you noted, a trip to San
19 Diego, which I had the opportunity to participate in.
20 Various avenues for streamlining extension requests for
21 fleets that experience financial and technical challenges
22 in meeting the requirements have been explored and will be
23 discussed as part of the staff presentation.

24 In some cases, the extensions being proposed
25 could extend out to approximately 2034 to provide more

1 time for compliance. In addition, we're proposing an
2 additional extension pathway for commercial passenger
3 fishing vessels that have upgraded all their engines to
4 meet the tier three standards.

5 We have assembled, released, and discussed
6 information with stakeholders regarding funding programs
7 available for harbor craft. We're also introducing a
8 proposed technology and implementation review, a
9 commitment to continue collaborating with the sportfishing
10 industry and release a mid-term review by 2028, as well as
11 a commitment to explore a zero-emission contingency
12 measure.

13 Today, staff is reporting back on how your
14 direction from November has been achieved and is
15 presenting the proposed amendments for your consideration
16 and final vote.

17 I'll now ask Melissa Houchin of the
18 Transportation and Toxics Division to begin the staff
19 presentation.

20 Melissa.

21 (Thereupon a slide presentation.)

22 TTD AIR RESOURCES ENGINEER HOUCHIN: Thank you,
23 Mr. Corey and good morning, Chair Randolph, and members of
24 the Board. Today, I'll be going over staff's proposed
25 amendments to the Commercial Harbor Craft Regulation and

1 staff's response to Board direction from our first hearing
2 in November.

3 --o0o--

4 TTD AIR RESOURCES ENGINEER HOUCHIN: As a quick
5 reminder, I'll start with the current commercial harbor
6 craft or CHC Regulation which sets requirements for harbor
7 craft to help the state meet clean air commitments and
8 protect communities near ports, marinas, and harbors. It
9 includes requirements for reporting using ultra low-sulfur
10 diesel fuel and accelerating turnover to Tier 2 or 3
11 engines for some vessel categories.

12 The compliance dates in the current regulation
13 run from 2009 to 2022. At the end of this year, the
14 current Harbor Craft Regulation will be considered fully
15 implemented. For the past few years, staff has been
16 developing a proposal to amend the regulation. This
17 process has resulted in the proposed amendments released
18 this past September, which would require zero-emission
19 marine technology for vessels where feasible and cleaner
20 combustion on all other vessel types. Staff presented the
21 proposed amendments on November 19th, 2021, where we heard
22 public comments and received direction from the Board.

23 --o0o--

24 TTD AIR RESOURCES ENGINEER HOUCHIN: This figure
25 was shown in our November presentation and is important to

1 touch on again. It illustrates that in the absence of the
2 proposed amendments, commercial harbor craft would emit
3 165 tons per year of diesel particulate matter, or DPM,
4 and 15.1 tons per day of oxides of nitrogen, or NOx, in
5 2023. Harbor craft are one of the top three emissions
6 sources at ports and result in a near source cancer risk
7 of greater than 900 chances in a million.

8 --o0o--

9 TTD AIR RESOURCES ENGINEER HOUCHIN: Now, I'll
10 recap the proposal. In support of Executive Order
11 N-79-20, zero-emission requirements were a top priority of
12 the proposal and are established where feasible, including
13 in 2025, new excursion vessels must be zero emission
14 capable. And in 2026, all short-run ferries must
15 transition to full zero-emission.

16 We also estimate that over 100 vessels will be
17 operating with zero-emission capability by the 2030s
18 through two compliance options in the proposal that allow
19 and encourage zero-emission operations through alternative
20 controls, which will be discussed in a few slides.

21 --o0o--

22 TTD AIR RESOURCES ENGINEER HOUCHIN: Where
23 zero-emission is not yet feasible, the amendments propose
24 cleaner combustion standards. To achieve the greatest
25 emission reductions and public health benefits, the

1 proposed amendments would not only require the cleanest
2 U.S. EPA certified engine available, but also the use of a
3 diesel particulate filter, or DPF.

4 The proposal also requires that Tier 4 engines
5 must be purchased if they are certified for the size and
6 duty cycle of an engine. The PM standards required by the
7 proposed amendments would harmonize with the newest
8 on-road engine standards.

9 --o0o--

10 TTD AIR RESOURCES ENGINEER HOUCHIN: This graphic
11 from our November hearing shows the originally proposed
12 compliance dates for each vessel category and potential
13 extensions available for feasibility and financial
14 hardship. Compliance dates shown in green depend on the
15 vessel type, engine tier, and engine model year, with
16 dirtier engines having earlier compliance dates.

17 The blue bars show the possible compliance
18 extension periods if vessel replacement is required. The
19 dark squares mark when vessel replacement may be required
20 after the extensions start to expire. Most extensions
21 expire December 31st, 2034, which is shown by the vertical
22 black line at the right end of the figure.

23 Note that commercial fishing vessels are required
24 to upgrade Tier 1 and older engines to Tier 3, which is a
25 feasible modification on virtually all in-use vessels and

1 therefore no compliance extensions for feasibility are
2 necessary. These compliance extensions provide
3 opportunities for fleets dealing with technical and
4 financial difficulties additional time to comply; in some
5 cases, up to 13 years from now.

6 --o0o--

7 TTD AIR RESOURCES ENGINEER HOUCHIN: As presented
8 in November, staff has built in two alternative compliance
9 options into the proposed memberships. The first is
10 called alternative control of emissions. This is a plan
11 created by an operator that will result in equivalent
12 emission reductions as following the model year compliance
13 schedule. The proposed amendments also include credits to
14 incentivize the adoption of zero-emission technologies.
15 An operator deploying a zero-emission or zero-emission
16 capable vessel would receive additional compliance times
17 for another vessel in the fleet, three years for a
18 zero-emission capable vessel and seven years for a full
19 zero-emission vessel. Operators could pick one of these
20 two options for their fleet or groups of engines.

21 --o0o--

22 TTD AIR RESOURCES ENGINEER HOUCHIN: Staff also
23 proposed that vessels with a home base in or adjacent to
24 disadvantaged communities have additional stringency under
25 the proposed amendments.

1 Disadvantaged communities would be identified as
2 the highest scoring 25 percent of census tracts from
3 CalEnviroScreen. Vessels with a home base in or adjacent
4 to disadvantaged communities would have more stringent
5 low-use thresholds. The proposed amendments also require
6 a demonstration of no increase impacts on disadvantaged
7 communities from alternative compliance plans or
8 zero-emission credits. The proposal requires that the
9 additional compliance time given to diesel-powered vessels
10 must not operate in these communities.

11 --o0o--

12 TTD AIR RESOURCES ENGINEER HOUCHIN: As you know,
13 it is extremely important that we reduce emissions from
14 all harbor craft in order to attain federal air quality
15 standards and protect portside communities. Since
16 November, we've released the Draft State SIP strategy,
17 which identifies a shortfall in emission reductions needed
18 to meet the ozone standard in South Coast.

19 These figures from the November hearing reiterate
20 the estimated emissions in 2035 with and without the
21 implementation of the proposed amendments with diesel PM
22 emissions on the left in tons per year and NOx emissions
23 on the right in tons per day. Statewide, the proposed
24 amendments would result in an 89 percent reduction in
25 diesel particulate matter emissions and a 54 percent

1 reduction in oxides of nitrogen emissions in 2035.

2 --o0o--

3 TTD AIR RESOURCES ENGINEER HOUCHIN: In November,
4 we also showed you the cancer risk from harbor craft in
5 the South Coast and San Francisco Bay Area air basins.
6 Here, we show you again how far the emissions from harbor
7 craft are felt in these high pollution area.

8 The next slide shows the reductions in cancer
9 risk the proposed amendments would have on these two air
10 basins.

11 --o0o--

12 TTD AIR RESOURCES ENGINEER HOUCHIN: As you can
13 see, the area of impact and cancer risk level are
14 drastically decreased. The proposed amendments reduce
15 cancer risk to over 22 million residents, reduce the
16 population weighted cancer risk from greater than 10 to
17 only 1 chance per million, and they eliminate cancer risk
18 of greater than 100 chances per million in the two study
19 areas.

20 This image of the South Coast Air Basin shows
21 many disadvantaged communities shaded gray that would no
22 longer have an exposure to cancer risk from harbor craft.

23 --o0o--

24 TTD AIR RESOURCES ENGINEER HOUCHIN: The Board
25 discussion in November directed staff to explore and

1 TTD AIR RESOURCES ENGINEER HOUCHIN: After the
2 November hearing, the Board's direction regard -- and the
3 Board's direction regarding additional outreach, staff
4 conducted over 30 virtual meetings and two in-person site
5 visits with stakeholders.

6 Staff also held a four-hour webinar in January to
7 discuss funding available for harbor craft, as well as
8 staff's proposed response to Board direction from
9 November. In addition, staff participated in over 80
10 additional calls and emails with stakeholders.

11 --o0o--

12 TTD AIR RESOURCES ENGINEER HOUCHIN: In response
13 to requests from stakeholders for public records, staff
14 also posted additional materials on our website, such as
15 the emission inventory, final cost workbooks,
16 informational fact sheets, health analysis methodology,
17 and air dispersion modeling input and output files.

18 --o0o--

19 TTD AIR RESOURCES ENGINEER HOUCHIN: Key topics
20 raised by stakeholders through the outreach since November
21 broadly include comments related to feasibility
22 affordability, and emission reductions. The next few
23 slides will cover these and staff's responses.

24 --o0o--

25 TTD AIR RESOURCES ENGINEER HOUCHIN: Many

1 operators have expressed concern over the availability and
2 performance of Tier 4 plus DPF technology. As highlighted
3 in our rulemaking package and at the November hearing,
4 there are 22 models of Tier 4 marine engines commercially
5 available. In addition, there are several U.S. EPA
6 certified Tier 3 engines that come with a DPF that are
7 available for auxiliary use.

8 Tier 3 and 4 engines and DPFs are proven
9 technology already in use in other sectors and will
10 continue to be subject to U.S. Coast Guard design
11 standards and inspections.

12 We also received comments on the affordability of
13 replacement vessels and the viability of these costs,
14 particularly for small businesses. Operators with these
15 concerns would be able to apply for the feasibility
16 compliance extensions for up to six or eight additional
17 years to comply. Staff included extensions in the
18 original proposal to allow small businesses to plan for
19 compliance costs and develop price structures to pass
20 these costs on to consumers.

21 Several comments also touched on the difficulty
22 of obtaining incentive funding. Although there are
23 funding opportunities. In order to provide the most
24 conservative estimate of compliance costs, the analysis
25 assumes no incentive funding is granted for any vessel

1 category.

2 --o0o--

3 TTD AIR RESOURCES ENGINEER HOUCHIN: We've
4 received comments regarding the accuracy of vessel
5 population inputs in the emissions inventory. Staff used
6 data and other inputs from extensive industry dialogue and
7 considered all relevant governmental database sources when
8 finalizing vessel population and other emission inventory
9 inputs.

10 We've also received comments from the articulated
11 tug barge, or ATB industry, indicating that ATBs should be
12 included under the ocean-going vessels category. ATBs are
13 comprised of two vessels, a tugboat and a barge vessel,
14 that operate in tandem. They typically carry refined
15 petrochemical products such as fuels. Although ATBs can
16 perform similar duties to ocean-going vessels,
17 particularly medium-range tankers, ATBs are harbor craft
18 and compete with other types of harbor craft directly. In
19 addition, the U.S. Coast Guard establishes separate
20 requirements for ATBs than it does ocean-going vessel
21 tankers.

22 In response to the Board resolution from the new
23 At Berth Regulation adopted in 2020, staff has worked
24 extensively with ATB industry, and incorporated dedicated
25 provisions in the alternative control of emissions section

1 for ATBs to use capture and control systems on auxiliary
2 engines while at the terminal.

3 Staff's proposal to continue regulating ATBs as
4 CHC would also achieve significant emission reductions
5 while the vessels are in transit within California waters.
6 We have also received comments requesting that commercial
7 passenger fishing vessel, or CPFVs, only be required to
8 turn over to Tier 3 now and zero emission later for the
9 final transition. As documented in our staff report, the
10 CPFV category has the lowest feasibility of any vessel
11 category for repowering to meet the Tier 4 plus DPF
12 performance standard.

13 In addition, the majority of CPFVs are owned and
14 operated by small businesses, which are generally not in a
15 strong position to finance feasibility evaluations to
16 apply for compliance extensions.

17 Because of the unique feasibility issues, many of
18 these companies would be granted compliance extensions
19 based on engine technology available today. Therefore,
20 for this category of vessels only, early upgrade to Tier 3
21 followed by a transition in 2034 to the Tier 4 plus DPF
22 performance standard, or zero emission, would provide a
23 unique opportunity for early emission reductions while
24 preserving the long-term emission benefits of the rule, as
25 discussed in more detail on the next slide.

1 --o0o--

2 TTD AIR RESOURCES ENGINEER HOUCHIN: These
3 recommended changes would apply to CPFVs. First, staff
4 proposes a 15-day change to establish a compliance option
5 for CPFVs to receive an extension to the end of 2034, if
6 vessels are upgrade to Tier 3 by the end of 2024. This
7 option would require some additional data gathering as
8 part of the already required annual reporting to help
9 staff understand financial impacts of upgrading technology
10 and it would require a commitment to collaborate with CARB
11 on zero-emission advancement.

12 This new compliance pathway would give operators
13 additional time before the next compliance step, while
14 providing near-term reductions through Tier 3 upgrades by
15 2024 and providing a streamlined, less expensive extension
16 process.

17 Second, through resolution, staff is proposing a
18 mid-term evaluation which will provide an opportunity to
19 discuss if zero-emission technology should be proposed as
20 the next step instead of Tier 4 plus DPF. Staff would
21 provide the Board with the mid-term evaluation by 2028.

22 --o0o--

23 TTD AIR RESOURCES ENGINEER HOUCHIN: Now, we will
24 transition into staff's response to Board direction from
25 November. As previously mentioned, the first area of

1 focus was outreach with stakeholders on funding. The
2 Board directed us to continue outreach with the affected
3 industry, which we have done by hosting our January webinar
4 and holding over 30 individual meetings with stakeholders
5 since our November hearing.

6 At our webinar, we provided detailed information
7 on four funding programs and invited experts to answer
8 questions from industry on their respective programs. We
9 will continue to have expanded dialogue with our funding
10 program partners to identify, communicate, and maximize
11 the use of funding opportunities.

12 --o0o--

13 TTD AIR RESOURCES ENGINEER HOUCHIN: The second
14 area the Board directed staff to reevaluate was the
15 compliance extension process, specifically looking at ways
16 to lower burdens on operators. As a reminder, the
17 proposed amendments include five compliance extensions
18 that operators may apply for, if they meet the extension
19 criteria.

20 --o0o--

21 TTD AIR RESOURCES ENGINEER HOUCHIN: Staff has
22 accordingly reexamined the compliance extension procedures
23 and believes that those provisions conform to the Board's
24 directives.

25 Staff has determined the current proposed

1 procedures already provide owners the flexibility
2 demonstrate the technical and feasibility of modifying
3 existing vessels by using readily accessible information
4 in lieu of contracting with a third-party naval architect
5 for an individualized assessment for a specific vessel.

6 If applicable for their vessel category, such as
7 sportfishing vessels that cannot be modified due to their
8 the wood or fiberglass vessel hull material, an owner
9 could use the study published by the California Maritime
10 Academy to demonstrate it would not be technically
11 feasible to modify their vessel, assuming no new engines
12 have become certified that change the CMA studies
13 conclusions. The \$62,000 feasibility study estimate in
14 our cost analysis was conservative, if an operator would
15 have needed to perform their own independent
16 vessel-specific study.

17 Staff commits to continually informing, updating,
18 and communicating with affected industry on issues
19 regarding all aspects of the proposed amendments, and
20 especially regarding the compliance extensions and
21 existing studies that meet requirements. Staff will also
22 be available to assist owners during implementation when
23 applying for extensions.

24 --o0o--

25 TTD AIR RESOURCES ENGINEER HOUCHIN: The Board

1 discussion also highlighted a need to regularly report
2 back on technology advancement. Zero-emission technology
3 is advancing rapidly, but it remains unclear how soon it
4 will be technically and economically viable for the wide
5 variety of harbor craft to operate in this state.

6 Staff proposed a technology review to be
7 completed every two years beginning in 2024, which would
8 include a newly formed technical working group, including
9 sportfishing and other industries to coordinate on
10 demonstrating zero-emission operations. This review would
11 cover the advancement of zero-emission technologies and
12 infrastructure, as well as the advancement and commercial
13 availability of Tier 4 plus DPF technology.

14 --o0o--

15 TTD AIR RESOURCES ENGINEER HOUCHIN: The last
16 area the Board directed staff to evaluate was a
17 zero-emission contingency measure, if zero-emission
18 technology becomes feasible and available for harbor
19 craft. Staff is proposing to explore a contingency
20 measure for non-attainment areas, if zero-emission
21 technology advances in the marine sector.

22 --o0o--

23 TTD AIR RESOURCES ENGINEER HOUCHIN: A draft
24 environmental analysis, or EA, was completed for the
25 proposed amendments that was released in September. Staff

1 determined that implementation of the proposed amendments
2 may have potentially significant indirect impacts to some
3 resource areas. However, these impacts are mainly due to
4 short-term construction-related activities.

5 The Draft EA was released for a comment period of
6 at least 45 days, which ended on November 15th, 2021.
7 Staff prepared a final Environmental Analysis and written
8 response to all comments received on the Draft EA and
9 posted them on our website earlier this month.

10 --o0o--

11 TTD AIR RESOURCES ENGINEER HOUCHIN: With that,
12 staff would like to remind the Board of the health
13 benefits and cost effectiveness of the proposed
14 amendments. From 2023 to 2038, the amendments would save
15 an estimated 531 lives and result in hundreds of avoided
16 trips to a hospital for breathing related emergencies.
17 Furthermore, the benefits outweigh the cost of the
18 amendments by \$3 billion, which is by a factor of two.

19 Due to emission standards for marine engines
20 lagging behind other sectors, they remain one of the
21 highest contributing emission sources at ports. It is
22 imperative that the marine sector reduces its emission
23 contribution and prioritizes near-term reductions.

24 This regulation is highly cost effective and
25 ensures that industry invests in clean air compliant

1 technologies that achieve substantial emission reductions
2 and public health benefits.

3 --o0o--

4 TTD AIR RESOURCES ENGINEER HOUCHIN: Staff's
5 recommendation is to approve the written responses to
6 environmental comments, certify the Final EA, and make the
7 required CEQA findings and Statement of Overriding
8 Considerations.

9 --o0o--

10 TTD AIR RESOURCES ENGINEER HOUCHIN: Additional
11 elements of the proposed resolution include language to
12 continue facilitating incentive opportunities and
13 streamline compliance extensions, as well as establish a
14 technical working group, including members of sportfishing
15 and other industries to advance and collaborate on
16 deployment of zero-emission technology and reported
17 findings in a biennial technology review.

18 The resolution also includes language to direct
19 staff to conduct a mid-term review by 2028 on the
20 requirements for the sportfishing fleet and return to the
21 Board. The Board would consider the findings of the
22 review and could direct staff to begin the process of
23 adjusting regulatory requirements.

24 And finally, the resolution proposes language to
25 explore a zero-emission contingency measure for extreme

1 non-attainment areas.

2 --o0o--

3 TTD AIR RESOURCES ENGINEER HOUCHIN: We further
4 recommend that the Board votes to adopt the proposed
5 amendments with recommended 15-day changes.

6 After releasing proposed change for a 15-day
7 period, staff will finalize the rulemaking package, which
8 includes responding to public comments in the Final
9 Statement of Reasons and the package will be submitted to
10 the Office of Administrative Law.

11 Thank you for your time.

12 CHAIR RANDOLPH: Thank you.

13 Before we move to public comment on this item, I
14 wanted to call on our former colleague who worked very
15 hard on this regulation, Supervisor Nathan Fletcher wanted
16 to say a few words.

17 SAN DIEGO SUPERVISOR FLETCHER: Thank you. Thank
18 you, Chair. It is -- IT IS wonderful to see you all. I
19 miss you all. I thoroughly enjoyed and loved and
20 appreciated my time on CARB and thrilled to see my
21 colleagues, Supervisor Nora Vargas who will do a much
22 better job than I could have ever done joining your Board
23 and doing wonderful.

24 But I just want to commend the CARB staff around
25 issues of the passenger sportfishing fleet and some of the

1 changes that have come about, along with a number of Board
2 members. I know I've spoken to many of you about this
3 issue, and many of you were engaged. And I really want to
4 commend Richard and team coming down, being on the ground,
5 seeing the circumstances, and making reasonable
6 accommodations that will achieve our environmental goals
7 and our clean air goals, but will do it in a way that is
8 real, and is sustainable, and that this really and
9 important industry can accommodate and move forward with.

10 So just in full support of what you all are doing
11 and really just want to commend everyone. These issues
12 are difficult and hard, and we know that we have to clean
13 up our environment. We know we have to clean up the air
14 and we know we have to do it in a responsible way that
15 takes into account some of the unique circumstances that
16 industry has faced.

17 And so just in full support of these amendments,
18 and again want to thank everyone for all of the hard work,
19 and listening, and engagement that went on. And I think
20 as a former Air Resources Board member, I'm very proud of
21 this regulation in total and the direction it's headed.
22 I'm particularly proud of how this industry was treated.
23 So thank you very, very much Chair Randolph and thank you
24 to all of you for the work you continue to do.

25 CHAIR RANDOLPH: All right. Thank you Supervisor

1 Fletcher.

2 Okay. We will now hear from the public who
3 raised their hand to speak on this item. We have at least
4 50 speakers lined up to speak. And as this is the second
5 hearing on this regulation package, our time to speak will
6 be two minutes. So, Clerk, could you please call the
7 commenters and set a time of two minutes per commenter.

8 BOARD CLERK ESTABROOK: Yes. Thank you, chair.
9 Our first three speakers will be Ken Franke, Jaime
10 Diamond, and Sam Wilson. Just a reminder to everyone that
11 with the number of hands that are up in the queue, if you
12 lower your hand and then reraise your hand, it will put
13 you to the bottom. So please just continue to keep your
14 hand raised until I call on you.

15 And if you are going to be giving your comment in
16 Spanish, please plan on speaking slowly and pausing after
17 each sentence. And we will have an interpreter that will
18 assist you for consecutive translation.

19 So, Ken, you may unmute and begin.

20 **3393** KEN FRANKE: Good morning, Chair Randolph and
21 members of the Board. I'm Captain Ken Franke, President
22 of the Sportfishing Association of California. The SAC
23 membership comprises a majority of the Southern California
24 Coast Guard inspected passenger fishing vessel fleet. We
25 in the CPFV community appreciate all of your comments at

1 the November Board meeting, and recognizing the
2 consequential impacts to families of the draft rule. We
3 also appreciate Mr. Corey and the executive leadership
4 team touring our vessels and hearing directly from our
5 family owners at how they will be impacted.

6 I also want to thank former Member Nathan
7 Fletcher for helping to take his knowledge of our fleet
8 and CARB's charge emission[SIC] to facilitate a
9 conversation and understanding between the fleet and the
10 professional team at CARB. The proposed resolution
11 recognizes the contributions of the fleet to continuously
12 upgrade to lower emissions engines, imposes an aggressive
13 schedule for the balance of the fleet to use best
14 available technology, and sets definitive benchmarks for
15 continuous development of new technologies to encourage
16 engine of manufacturers to meet the future needs of our
17 fleet.

18 This won't be easy and is in -- and is dependent
19 on support from you as Board members the Legislature to
20 access the resources necessary to meet this aggressive
21 schedule and future innovation. Critical to this also is
22 the fleet's cooperation with CARB to conduct technology
23 review. And you have our commitment to maintain that
24 cooperative effort.

25 SAC and GGFA have discussed with staff that we

1 want to ensure that the technology review is
2 comprehensive, so that we can identify emissions and
3 reduction opportunities, and provide an economically
4 technical -- technologically feasible path to continuously
5 lower emissions and eventually meet the state's long-term
6 zero-emissions goals. This would include, but not limited
7 to: updated emissions data and modeling; certification of
8 engines in horsepower class; space constraints on vessels;
9 safety of technologies, including stability and heat
10 concerns; advanced hybrid and zero-emissions retrofit
11 development status; dockside infrastructure; and finally
12 monetary and non-monetary impacts to ocean education and
13 resource protection and conservation.

14 On behalf of the SAC Board of Directors, we are
15 in support of the draft resolution and staff presentation
16 on 15-day changes for commercial passenger fishing
17 vessels. Again, this is not giving the fleet a pass. It
18 is recognizing the fleet's early actions in environmental
19 stewardship, in setting and aggressive schedule for
20 continuous improvement. I'd like to finally also comment
21 that we've been in discussions with CARB staff regarding
22 certain ecotourism vessels --

23 BOARD CLERK ESTABROOK: Thank you.

24 KEN FRANKE: -- that are not required to purchase
25 CPFV licenses. SAC and GGFA are committed to working with

1 their members to meet the near-term goals working with
2 CARB staff to identify --

3 BOARD CLERK ESTABROOK: Thank you. That
4 concludes your time.

5 KEN FRANKE: Thank you.

6 BOARD CLERK ESTABROOK: Thank you.

7 Our next speaker is Jaime Diamond. Jamie, you
8 may unmute and begin.

9 **3394** JAIME DIAMOND: Good morning, Chair Randolph and
10 members of the Board. I am Jaime Diamond, owner of
11 Stardust Sportfishing in Santa Barbara. As a women in
12 this industry, I worked hard to build my family business.
13 Everything we have is on the line, including the jobs of
14 all of our employees. Maintaining our family business
15 through this time, and after having just survived COVID
16 shutdowns, has been frightening experience. That said, I,
17 along with other family boat owners were relieved when we
18 heard of the extension path proposed in the resolution.

19 Having the CARB staff meet with us and talk about
20 what could be done to reduce emissions without removing
21 out boats from service was important and much appreciated.
22 I know there's much to be done to help fellow owners meet
23 the aggressive timeline and I look forward to -- and look
24 towards future emissions reductions.

25 I'm on the Board of Directors of SAC and have

1 been involved through much of the process, and I'm
2 committed to assisting all of my fellow owners comply and
3 to work with CARB on future reductions. I also know the
4 men and women on our board and all of the captains and
5 crew are strong advocates of environmental protection.
6 They will be strong allies going forward to continue to
7 upgrade machinery to better models.

8 We are all in support of your efforts here today.
9 A positive outcome will save so many jobs and the ocean
10 access for so many people in our communities that do not
11 have the money to buy their own boats. Our kids programs,
12 marine labs for students, the veterans fishing programs
13 all will be saved with an approval of this resolution.

14 Looking to the future, our fleet will be right
15 there to help work with CARB to communicate, research, and
16 continue to upgrade engines. I look forward to your
17 approval of the resolution.

18 My three kids ages 15, 12, and 4, who hope to
19 take over our family business some day, thank you, and
20 look forward to your approval of the resolution.

21 Thank you. Have a great day

22 BOARD CLERK ESTABROOK: Thank you.

23 Our next speaker will be Sam Wilson. After Sam
24 will be David Reynolds, Richard Smith, and then Ameen
25 Khan.

1 Sam, you may unmute and begin.

2 **3395** SAM WILSON: Hi. Good morning, everybody. My
3 name is Sam Wilson. I'm a Senior Vehicles Analyst with
4 the Union of Concerned Scientists. Thanks so much for the
5 opportunity to comment today.

6 UCS appreciates the time and hard work put into
7 this proposal and we support CARB's efforts to reduce
8 emissions from commercial harbor craft. We urge the Board
9 to adopt this proposal today.

10 Emissions from harbor craft are currently one of
11 the primary cancer risks for Californians living closer to
12 ports. The proposed rule would provide a nearly 90
13 percent reduction in diesel particulate emissions and an
14 over 50 percent reduction in nitrogen oxide emissions from
15 the commercial harbor craft in our state. This will
16 reduce cancer risks and other negative health outcomes for
17 millions of Californians resulting in hundreds of fewer
18 premature deaths, hospital visits, and respiratory
19 illnesses, and also billions of dollars in related health
20 savings.

21 This is particularly impactful for those
22 communities living close to ports, which already bear
23 disproportionate exposure to cumulative air toxins.
24 Zero-emissions technologies are ready and available today
25 and UCS suggests that CARB continue to consider and expand

1 incentives in funding for small businesses that operate
2 vessels to transition quickly and equitably to a clean
3 transportation future.

4 California has a very rich history of adopting
5 effective regulations that spur innovation while reducing
6 toxic air pollution. We encourage the Board to continue
7 this history by adopting a strong public health focused
8 regulation today to further expand existing zero-emissions
9 vehicles technologies -- or vessels technology, excuse me,
10 affecting a more equitable access to clean and healthy
11 air, and significantly reducing exposure to cancer causing
12 air pollution for millions of Californians.

13 Thanks again for your hard work on this proposal.

14 BOARD CLERK ESTABROOK: Thank you.

15 David Reynolds, you may unmute and begin.

16 (Conversation in the background.)

17 DAVID REYNOLDS: Thank you for this
18 opportunity --

19 (Conversation the background.)

20 BOARD CLERK ESTABROOK: David.

21 DAVID REYNOLDS: Thank you for this
22 opportunity --

23 BOARD CLERK ESTABROOK: Just a reminder to Board
24 members. We'll start your clock over. Sorry, David.

25 DAVID REYNOLDS: No problem.

1 BOARD CLERK ESTABROOK: Just a reminder to
2 everyone to continue to stay on mute.

3 And David, you may go ahead and begin.

4 **3396** DAVID REYNOLDS: Thank you for this opportunity.

5 My name is Davie Reynolds and I work at PTL
6 Marine. PTL marine operates and services the major ports
7 in California, including San Diego, LA/Long Beach, Port
8 Hueneme, and the Bay Area markets. We are an industrial
9 distribution and services provider with an emphasis on
10 fuels, lubricants, chemicals and last mile logistics. We
11 employ approximately 60 California residents and our
12 organization has been operating in California since 1956.

13 The maritime industry understands and appreciates
14 the long term viability of renewable diesel as a drop-in
15 fuel to be used instead of convent -- conventional
16 distillates. Current production capabilities require a
17 great majority of the renewable diesel fuel utilized in
18 the State of California to be imported primarily from the
19 Gulf Coast or Asian markets.

20 Current production capacity of renewable diesel
21 in the United States is around 600 million gallons per
22 year with only five plants producing the product. On the
23 positive side, production is expected to scale up as there
24 are at least six new plants in progress that will add an
25 additional two billion gallons per year of production

1 capacity by 2024.

2 The downside is that even with this incremental
3 production, this still only represents a very small
4 portion of the overall United States refinery capacity.

5 There are two California refineries, one in
6 Martinez, and the other in the Bay Area that are being
7 converted to renewable diesel production. These
8 conversions will not be completed until 2023 and 2024 best
9 case scenario. Until these conversions are completed,
10 product availability and reliability will remain at risk.
11 When supply is tight, there's an additional cost passed on
12 to consumers, all consumers, not just those maritime
13 industry operators. We request that you extend the
14 renewable diesel fuel requirement for California harbor
15 crafts until January 1st --

16 BOARD CLERK ESTABROOK: Thank you.

17 DAVID REYNOLDS: -- 2024.

18 BOARD CLERK ESTABROOK: Thank you. That
19 concludes you time.

20 DAVID REYNOLDS: Thank you.

21 BOARD CLERK ESTABROOK: Our next speaker is
22 Richard Smith. Richard, you may unmute and begin.

23 3397 RICHARD SMITH: Good morning. My name is Richard
24 Smith and I am commenting on behalf of Westar Marine
25 Services. Westar is women-owned tugboat and water taxi

3397.1

1 company based in San Francisco that has been in existence
2 since 1976. Westar operates 10 small tugboats and five
3397.1 (cont.) 3 water taxis, and ploys about 50 women and men, many of
4 whom are represented by the Masters, Mates & Pilots Union.
5 Westar's market niche is marine construction support,
6 keeping the maritime infrastructure of peers, docks,
7 bridges, et cetera, maintained and working.

8 Westar has invested millions of its own dollars
9 plus Carl Moyer funds over the past 20 years upgrading the
10 engines on its vessels to reduce emissions. The company's
11 investments demonstrate its ongoing environmental
12 commitment. The proposed regulations will directly impact
13 Westar and threaten the liability of the company.

14 The regulations call for the installation of
3397.2 15 engines and equipment that do not exist and physically
16 could not be installed in the small vessels that Westar
17 operates.

3397.3 18 Loss of a company such as Westar will directly
19 impacts the maritime supply chain issues for the State.

20 Westar endorses the comments that will be made by the
21 American Waterways Operators, and Westar urges the Board
22 to vote no on this item and to direct staff to work with
23 the maritime industry to develop regulations that are
24 feasible.

25 Thank you.

1 BOARD CLERK ESTABROOK: Thank you.

2 Our next speaker will be Ameen Khan. After Ameen
3 will be Christine Batikian, Jacqueline Moore, and Jim
4 Holden.

5 Ameen, you may unmute and begin.

6 **3398** AMEEN KHAN: Good morning, Chair Randolph and
7 Board members. My name is Ameen Khan and I am the
8 Regulatory Affairs Advocate for California Environmental
9 Voters, formerly the California League of Conservation
10 Voters.

11 We thank the Board members and CARB staff for all
12 your hard work and diligence in this issue. We are
13 calling in support and to urge CARB to pass the strongest
14 possible Commercial Harbor Craft Rule today. Harbor craft
15 is one of the top resources of cancer risk around the
16 ports of Los Angeles, Long Beach, and Oakland. We have
17 the busiest ports in the nation. The communities closest
18 to those ports have a 900 chance in 1 million developing
19 cancer from the harbor craft emissions alone. This is 90
20 times above levels what EPA deems safe. This rule will
21 save more than 300 -- 530 California lives and protect 9.7
22 million Californians from elevated levels of air
23 pollution.

24 The technology exists today for zero-emission
25 boats and ships. No industry should be given a free pass

1 ways at the price of our frontline communities and the
2 environment. The time is now to electrify everything.

3 California's Harbor Craft Rule is an essential
4 step towards addressing the harms of fossil fuel shipping
5 and extend California's zero-emission transportation deep
6 into the seas.

7 On behalf of California Environmental Voters, I
8 urge you to pass the strongest possible version of the
9 Commercial Harbor Craft Rule today.

10 Thank you for consideration of my comments

11 --o0o--

12 BOARD CLERK ESTABROOK: Thank you. Christine
13 Batikian, you may unmute and begin.

14 **3399** CHRISTINE BATIKIAN: Christine Batikian
15 representing the Port of Los Angeles. The Port of Los
16 Angeles submitted written comments on the draft rule in a
17 joint letter with the Port of Long Beach in November 2021.
18 Our comments provided in that letter remain relevant and
19 important, but we'll focus our verbal comments today on
20 funding availability for harbor craft.

21 We have concerns with the funding programs CARB
22 staff presented during the January meeting. Carl Moyer
23 funding has been pointed as a main source of funding.
24 However, Carl Moyer funding prioritization is currently
25 set aside by the air districts. Historically, air

1 districts have provided limited, or in the case of some
2 air districts, no funding to harbor craft through Carl
3 Moyer.

4 Additionally, harbor craft that must meet
5 regulations prior to 2025 will be ineligible for Carl
6 Moyer funding as they will not meet the useful life
7 requirements. Harbor craft that do not meet the useful
8 life requirement may also not meet current cost
9 effectiveness. Many vessels that currently have Tier 2 or
10 3 engines will not be able to accommodate a Tier 4 engine
11 in their existing vessel and will need to be replaced.
12 Unfortunately, replacing a Tier 2 or 3 engine with Tier 4
13 will not meet current Carl Moyer cost effectiveness.

14 We request that CARB staff set aside funding for
15 the air districts specifically for harbor craft in Carl
16 Moyer, adjust cost effectiveness regulation -- cost
17 effectiveness calculations to allow for harbor craft
18 replacements, and increase the funding amount overall.
19 Additionally, CORE -- another program presented was CORE.
20 CORE requires that the equipment must be verified and
21 listed and eligible for participants to get funding.
22 There is currently no listed harbor craft equipment or
23 shore power infrastructure on the list of eligible
24 equipment. Therefore, no CORE funding can be used at this
25 time.

1 EPA's DERA funding was named as a funding source.
2 DERA is a competitive grant against projects throughout
3 the Entire EPA Region 9, which is four states. The
4 funding availability is relatively small for DERA
5 projects. We thank you for all the hard work, but the
6 funding is not there to meet the timeline that CARB has
7 set. CARB must set aside funding specifically for harbor
8 craft or adjust existing funding programs in order for
9 them to be --

10 BOARD CLERK ESTABROOK: Thank you.

11 CHRISTINE BATIKIAN: -- of any use to harbor
12 craft owners and operators.

13 Thank you.

14 BOARD CLERK ESTABROOK: Thank you. That
15 concludes your time.

16 Jacqueline Moore, you unmute and begin.

17 3400 JACQUELINE MOORE: Hi. Good morning. My name is
18 Jacqueline Moore and I'm from the Pacific Merchant
19 Shipping Association and our members have appreciated the
20 opportunity to work with CARB staff on the development of
21 the amendments over the past few years. I offer three
22 outstanding comments. And I will leave the technical
23 comments to the many hard working harbor craft operators
24 participating in this meeting today.

25 3400.1 One strategy in various recent regulations and

3400.1
(cont.)

1 amendment CARB is adopting are holding owners and
2 operators jointly responsible are not being obligated to a
3 specific party at all. CARB staff have said to let the
4 industry work it out, but unfortunately, that's not how
5 business works. We must rely on formal contracts and
6 agreements.

7 Seaports have established procedures and
8 contractual obligations. For the zero-emission
9 infrastructure a vital component of this regulation, it
10 will certainly cause confusion and likely conflict
11 regarding who will be responsible for purchasing and
12 maintaining infrastructure, and who even owns it in the
13 end.

3400.2

14 I would also like to highlight that, yes, there
15 are some funding programs available. However, they are
16 nowhere near offering the multi-millions of dollars
17 required for every vessel. I highly support the comments
18 Ms. Batikian from Port of LA just shared on the funding
19 complications. I respectfully urge CARB and the law
20 makers to propose and support such additional
21 appropriations within the budget.

3400.3

22 As for my main comment, the Clean Air Act
23 requires that California obtain a waiver from EPA prior to
24 enforcing any off-road emissions standard. This Harbor
25 Craft Rule is just that. It is not an in-use standard.

1 The emissions standard requirement and opacity limit
2 places a numerical limit on emissions that go beyond
3 approved standard limitations. EPA must provide a waiver
4 to legally enforce this. This issue has already been
5 litigated with CARB. And thus, we respectfully urge CARB
6 to declare your intention to obtain a waiver prior to
7 implementation of the amendments.

8 And that concludes my comments. Again, I am
9 Jacqueline Moore of PMSA and thank you for allowing me the
10 time to speak today.

11 BOARD CLERK ESTABROOK: Thank you.

12 Our next speaker will be Jim Holden. After Jim
13 will be Peter Schrappen, Regina Hsu, and Ernie Prieto.
14 Jim, you my unmute and begin.

15 3401 JIM HOLDEN: Well, good morning. My name is Jim
16 Holden I'm the founder of Fish for Life, which is a
17 13-year program that takes special needs children and
18 their families ocean fishing, unlike any program of its
19 kind. Our home court is Dana Point. We've also had trips
20 from Long Beach, San Diego, and we'll be expanding to
21 Northern California this fall and the Bay Area.

22 We have a hundred people per voyage that includes
23 30 special needs kids, a variety of condition, autistic
24 kids, down kids, cerebral palsy, they're all welcome, 30
25 chaperones, and 40 volunteers that involve non-special

1 needs kids, marine biologists, wounded warriors, firemen,
2 EMTs. We have -- it's loaded with entertainment. The
3 trips begin with red art -- red carpet introductions down
4 the gangway to introduce our guests as they board the
5 boat, a fire boat escort, kites we fly as we're heading to
6 the fishing grounds, educate them, you know, about whales,
7 dolphins, the difference between seals, sea lions, et
8 cetera. We even surprise them with a mermaid out in the
9 ocean while we're under dock -- or anchor.

10 As you can imagine, you know, the trips a feature
11 rich, but therapeutic benefits are tremendous for our
12 honored guests, the chaperones and all the volunteers. I
13 want to take this time to thank CARB for your compassion
14 and substantive changes to the harbor craft engine
15 regulation. The demands for our program is overwhelming
16 and this will allow Fish for Life to pursue our expansion
17 plans to serve more families with special needs children.

18 Thank you.

19 BOARD CLERK ESTABROOK: Thank you.

20 Peter Schrappen, you may unmute and begin.

21 3402 PETER SCHRAPPEN: Thank you. My name is Peter
22 Schrappen, Vice President for the American Waterways
23 Operators, which represents the tugboats, towboats, and
24 barges. California is a critical part of our trade
25 association. The Golden State ranks fourth among all

1 states in maritime jobs and contributes a whopping \$12.2
2 billion annually to California's economy. If I could, I'd
3 like to brag about our strong environmental record.

4 Our members represent the greenest, and most fuel
5 efficient transportation system. Goods moved by tugs and
6 barges mean 43 percent less greenhouse gases than rail
7 moved freight and about 1,000 percent less than moving the
8 same freight by semis. We're not resting on our
9 environmental bonafides however. We are continually
10 pushing the envelope as is the entire industry to get to
11 zero emissions.

3402.1 12 Unfortunately, we find ourselves at an impasse
13 with this draft rule. These regulations are economically
14 infeasible with dangerous modifications based on
15 technology that has not been invented. I'm talking about
16 DPFs. Unlike trucks, boats can't pull to the side of the
17 road and call 911 and wait for a fire truck. They're at
18 sea and if they catch fire, it places their crew and the
19 ships they escort at risk.

3402.2 20 Tugs, towboats, and barges are part of the
21 nation's critical infrastructure and I don't want to bury
22 the lead. This rule will disrupt and already supply --
23 strained supply chain and devastate a critically important
24 part of California's infrastructure, the workhorses of the
25 working waterfront that supply Californians with their

3402.2
(cont.)

1 groceries and fuel.

2 If you think times are tough now with
3 (inaudible), in the market, wait until we all feel the
4 pain that this rule will bring.

3402.3

5 We have made our positions clear with our comment
6 letters. We stand ready to work with CARB, but let's not
7 jeopardize the lives of mariners. Let's pick better path.
8 One that gets to zero emissions in a safe manner, one that
9 allows DPFs a chance to get approved by the Coast Guard
10 with a six-year grace period, one that exempts non-harbor
11 craft like ocean-going tugs and ATBs because of the
12 already in place At Berth Regulation where they are better
13 suited, and let's seize the moment to get outdated
14 technology out of the environment before we leave to
15 require an unproven and dangerous technology.

16 Thank you for your time.

17 BOARD CLERK ESTABROOK: Thank you.

18 Regina Hsu, you may unmute and begin.

19 **3403** REGINA HSU: Good morning Chair Randolph and
20 members of the Board. My name is Regina Hsu and I'm an
21 attorney with Earthjustice. Thank you for the opportunity
22 to comment today.

23 We urge CARB to adopt the Commercial Harbor Craft
24 rule, the culmination of years of work by staff. By
25 adopting this rule, CARB will fulfill a promise to

1 front-line communities to clean up harbor craft, which
2 staff identified as a growing source of diesel pollution
3 four years ago.

4 Since then, our portside communities have been
5 suffering from an onslaught of toxic pollution due to
6 increased activity at the ports. This growth at our ports
7 means that we need to act now to clean up these various
8 sources of port pollution.

9 The harbor craft rule is an opportunity for CARB
10 to pass a critical public health measure that will save
11 over 500 lives and bring much needed relief to our port
12 communities. We appreciate staff's hard work and glad to
13 see the first zero-emission requirements for harbor craft
14 in this rule. We support the biennial technology review
15 as well. Zero-emissions technology for harbor craft is
16 developing quickly and these frequent technology reviews
17 will be important to ensuring that we are achieving all of
18 the emission reductions we can from this sector.

19 We also support the commitment to pursue a
20 contingency measure. Additional zero-emission
21 requirements for harbor craft will be critical for
22 non-attainment areas, such as the South Coast and San
23 Joaquin Valley.

24 Again, we'd like to thank staff for their hard
25 work and urge CARB to stand with communities and adopt

1 this rule. Thank you.

2 BOARD CLERK ESTABROOK: Thank you.

3 Our next speaker will be Ernie Prieto. After
4 Ernie will be Jerry Desmond, Laura[SIC] Gularte, and David
5 McCloy.

6 Ernie, you may go ahead and begin.

7 3404 ERNIE PRIETO: Good morning. My name is Ernie
8 Prieto, Captain of the Chubasco II in Oceanside,
9 California. The regulations that were considered at your
10 November hearing are not economically or structurally
11 feasible. We would be forced to build a new vessel at an
12 estimated cost of \$5 million forcing me to triple the
13 price of one of our half-day trips, likely eliminating my
14 marine education and fishing outreach programs. There is
15 no way we could sustain current passenger loads at those
16 prices. No way we could stay in business.

17 In stark contrast, I can support the resolution
18 being considered today that proposes an alternative
19 compliance path for commercial passenger fishing vessels,
20 otherwise known as sportfishing boats. With its passage,
21 boat owners, like myself, will be set on a compliance path
22 that is tough, but manageable.

23 Once more, millions of Californians will be
24 assured affordable access to fishing. This is important
25 for all Californians, especially since there's been an

1 increase in fishing participation with significant growth
2 amongst families. The recreational boating and fishing
3 foundation recently reported that fishing participation
4 rates have increased to a 12-year high with notable growth
5 amongst non-traditional participants that are younger,
6 more urban, and more diverse with significant --
7 significant gains amongst women, African Americans,
8 Hispanics, and Latinos.

9 But I do not need a report to tell me this. My
10 passengers are diverse and multi-cultural, representative
11 of what makes California so special, a culture full of
12 smiles and excitement when they have hooked a fish or
13 experienced the ocean for the very first time.

14 With the adoption of the resolution, I can
15 continue to support my family, my family of employees, and
16 California's community of anglers.

17 Thank you.

18 BOARD CLERK ESTABROOK: Thank you.

19 Jerry Desmond.

20 **3405** JERRY DESMOND: Good morning, Chair and members.
21 This is Jerry Desmond on behalf of Recreational Boaters of
22 California, RBOC, a non-profit advocacy organization that
23 has pro -- been promoting and protecting the interests of
24 the State boaters for over 50 years. We were a signer on
25 the November 3rd comment letter to the Board on this

1 issue. And we appreciate and understand the achievements
2 that have been accomplished in terms of the proposed
3 regulation since that date, and we align ourselves with
4 the comments that Ken Franke and the Sportsfishing
5 Association of California, and the other sportfishing
6 folks that are testifying today. We appreciate the effort
7 to engage with our community.

8 Thank you.

9 BOARD CLERK ESTABROOK: Thank you. Lauren -- go
10 ahead.

11 CHAIR RANDOLPH: We going to close the queue for
12 public comment, so if you have not yet raised your hand or
13 dialed star nine, please do so now. And 10:10, the queue
14 will close.

15 Thank you very much.

16 BOARD CLERK ESTABROOK: Thank you. Lauren
17 Gularte, you may unmute and begin.

18 **3406** LAUREN GULARTE: Good morning, Chair Randolph and
19 commissioners. My name is Lauren Gularte representing the
20 Water Emergency Transportation Authority, which operates
21 San Francisco Bay Ferry Services. Thank you for the
22 opportunity to comment today.

23 WETA is supportive of the goal of the proposed
24 amendments and is committed to operating the cleanest
25 vessels possible. In partnership with CARB, WET -- WETA

1 staff have worked throughout the last year plus to develop
2 an alternative control of emissions plan that will shift
3 50 percent of our vessel fleet to zero emissions by 2035.
4 We appreciate the time and effort your staff has committed
5 to working with us and developing this plan and addressing
6 our concerns with previous versions of the proposed
7 amendments.

8 In advance of the November 19, 2021 hearing, we
9 submitted a letter outlining two remaining requests for
10 changes to the proposed amendments. First, we requested
11 CARB to clarify language which discussed language
12 regarding funding restrictions for an operator's ACE plan.
13 And we requested that CARB make changes to limit the use
14 of grant funds -- I'm sorry, to -- rather than limiting
15 the use of grant funds to implement an operator's ACE
16 Plan, we suggest that the restrictions on the use of grant
17 funds come directly from the granting agency.

18 Secondly, we requested CARB to address the
19 situation of an in-process vessel repower project that
20 will occur -- well, that will have an engine out of a
21 vessel on December 31st, 2022, which is the date that is
22 used to document the engine model year of the vessel and
23 therefore sets the compliance year for that vessel. We
24 will have a vessel in the shipyard at that time and
25 requesting the language to be included to address that

3406.2
(cont.)

1 situation.

2 We hope that CARB's Commission will direct staff
3 to address these two remaining requests for changes to the
4 proposed amendments today. In addition, we also want to
5 urge CARB to act promptly in reviewing an operator's ACE
6 plan, once these regulations go into effect. We have a
7 lot of work to secure funding and expediting approval will
8 help position WETA to bring these projects closer to
9 reality. Thank you for the time.

10 BOARD CLERK ESTABROOK: Thank you.

11 Our next speaker will be David McCloy. After
12 David, will Donna Kalez, Shawn Bennett and Tim Ekstrom.

13 David, you may unmute and begin.

14 **3407** DAVID MCCLOY: Good morning. My name is David
15 McCloy. I'm with the San Francisco Bar Pilots. Thanks
16 for the opportunity to speak. My company owns and
17 operates 5 of the 10 pilot vessels in California.

18 We support the efforts of CARB to improve air
19 quality in California. The Bar Pilots, along with our
20 ratepayers, are currently building the first Tier 4
21 powered high-speed pilot vessel in the U.S. It will
22 replace our current Tier 2 vessel. Delivered in November
23 of this year, it will be ahead of the proposed compliance
24 date for that vessel.

25 The current regs now require emissions compliance

1 upon new construction of vessels or repowers, along --
2 similar to EPA U.S. EPA requirements. The new proposed
3 regulations will require the Bar Pilots to prematurely
4 replace our fleet by the end of 2025. That's only three
5 and a half years from now, at the cost of approximately
6 \$50 million to us and our industry ratepayers.

7 The design and engineering requirements timeline,
8 along with the financial impact on such a short timeline
9 will create an unreasonable burden on the piloted
10 infrastructure. We embrace the concept and efforts to
11 improve air quality in our area and the State as well, but
12 we just need more time to renew our fleet and comply with
13 the regs. So our request is to have additional time for
14 our vessels to meet the requirements. The current
15 proposed regs don't allow much extensions for our
16 particular fleet.

17 Thanks for your time. That's it.

18 BOARD CLERK ESTABROOK: Thank you.

19 Donna Kalez, you may unmute and begin.

20 **3408** DONNA KALEZ: Thank you. Good morning, Chair
21 Randolph and members of the Board. My name is Donna Kalez
22 and I, along with my family, own and operate Dana Wharf
23 Sportfishing here in Dana Point.

24 As a fleet, we always have and will remain in
25 support of economically and technically feasible emission

1 reduction efforts. As noted in the January workshop, our
2 fleet has comprised about 80 percent of the marine
3 projects over the last number of years, giving our fleet a
4 significant jump on early implementation of lower emission
5 technologies.

6 Many owners have taken advantage of grant
7 programs to upgrade their vessels, two and even three
8 times, as lower emission engines were developed. The
9 grant funding has been critical to these improvements.
10 The inspected fleet stood at about 295 Tier 0 vessels in
11 1998, while the economics of the fleet has resulted in the
12 loss of about a third of those inspected vessels. Since
13 then, the grant programs have allowed 87 percent of the
14 remaining 193 full-time vessels to be upgraded to one of
15 the two latest tiers approved for our vessels, and over 41
16 percent were the latest available tiers as of February
17 1st, and more upgrades have taken place since then. All
18 around, this is a huge involuntary emission reduction
19 effort in partnership with the fleet, CARB, and our local
20 AQMDs that have offered marine grants.

21 We look forward to the approval of this
22 resolution and the 15-day comment period changes to
23 continue this important work and partnership. Your
24 support today and support of legislative funding will
25 allow the full-time commercial passenger fishing vessel

1 fleet to meet the aggressive timelines in the changes and
2 send --

3 BOARD CLERK ESTABROOK: Thank you.

4 DONNA KALEZ: -- the signal to engine
5 manufacturers. Thank you so very much for your time.

6 BOARD CLERK ESTABROOK: Thank you. That
7 concludes your time.

8 Our next speaker will be Shawn Bennett. And it
9 is now past 10:10 so the list to sign up is now closed.

10 Shawn, you may unmute and begin.

11 SHAWN BENNETT: Great. Thank you so much for the
12 time to speak here. My name is Shawn Bennett.

13 BOARD CLERK ESTABROOK: Shawn.

14 SHAWN BENNETT: Can I stop you there and ask that
15 you mute the device in the background.

16 SHAWN BENNETT: I'm not sure what that device is,
17 but how is that?

18 BOARD CLERK ESTABROOK: That sounds great. Thank
19 you.

20 SHAWN BENNETT: Does that work?

21 BOARD CLERK ESTABROOK: No, now there's feedback
22 again.

23 SHAWN BENNETT: I'm not sure.

24 BOARD CLERK ESTABROOK: It sounds like it's off
25 now. Are you --

1 SHAWN BENNETT: Yeah, if I try to talk.

2 BOARD CLERK ESTABROOK: Oh. So there's a --

3 SHAWN BENNETT: I'm not sure --

4 BOARD CLERK ESTABROOK: Is the audio coming
5 through somewhere else and it's picking it up. If you
6 have a headset or headphones and then I can maybe come
7 back to you.

8 SHAWN BENNETT: Yes, please. I'll try.

9 BOARD CLERK ESTABROOK: Okay. All right. Let's
10 go to Tim Ekstrom. Tim, you may unmute and begin.

11 Tim, are you there?

12 TIM EKSTROM: Okay. Can you hear me now?

13 BOARD CLERK ESTABROOK: Yes, I can. Thank you

14 **3409** TIM EKSTROM: Good morning, Chair Randolph and
15 members of the Board. I am Captain Tim Ekstrom with the
16 sportfishing vessel Royal Star based in San Diego.

17 I am in support of the proposed extension path
18 and resolution for our sector. The overnight fleet in
19 California departs our harbors for trips from 1 through 16
20 days offshore. While the presence of offshore vessels
21 like Royal Star in California waters is far less than
22 coastal vessels, we share the desire for reduced
23 emissions.

24 Many boats in our fleet are already powered by
25 Tier 2 and tier 3 engines and more are transitioning now.

1 Our fleet history of voluntarily upgrading machinery and
2 reducing emissions is well established. I am incredibly
3 appreciative that the CARB staff joined us in San Diego to
4 discuss a logical path for emissions reductions while
5 maintaining the viability of our fleet.

6 The owners, captains, and crews are a small
7 portion of the individuals who will be impacted by a
8 positive outcome today. Hundred of thousands of people
9 who visit our coastal communities will continue to enjoy
10 coastal and offshore voyages, learn about the ocean and
11 cherish the ability to sustainably harvest fresh seafood
12 for their families from value-based sportfishing voyages.

13 Hotels, restaurants, and numerous other support
14 businesses will remain in tact and thrive while our fleet
15 reduces emissions through machinery upgrades and
16 technology on a clear path towards an ultimate
17 zero-emissions goal. This is a shining example of what
18 productive collaboration can produce.

19 On behalf of my crew, our family, and the entire
20 fleet of commercial passenger fishing vessels, thank you
21 to CARB staff and you for your consideration of this
22 important resolution.

23 BOARD CLERK ESTABROOK: Thank you.

24 All right. Shawn Bennett let's try again.

25 SHAWN BENNETT: Okay. How is that?

1 BOARD CLERK ESTABROOK: That's perfect.

2 3410 SHAWN BENNETT: Okay. Great. Sorry about that.
3 Thanks for your time. I'm name is Shawn Bennett. I'm the
4 owner of Baydelta Maritime. We are a tugboat company that
5 runs tugs and boats in San Francisco Bay and LA/Long
6 Beach. And we employ about 40 people. We're a small
7 business.

8 And you know, our specific role in the tugboat
9 business is really running purpose-built tugs that are
10 meant to prevent oil spills just to put it bluntly.
11 They're very much designed specifically to the
12 requirements of the Oil Spill Prevention Act of 1990. And
13 that requires best achievable technology. We tether to
14 the back of tankers that come in and out of San Francisco
15 Bay and LA/Long Beach. And our job is to stop them if a
16 pilot, you know, requests the need for any sort of issues
17 with mechanical or, you know, navigational or anything to
18 the effect. And we've made a lot of progress doing that
19 over the years and I think water cleanup has been a really
20 big focus.

21 Now, one of the issues and concerns we have with
22 this regulation is it requires a lot of power and a lot of
23 stability in the design of our vessels to do that, you
24 know, carry out that duty. We do -- we turn basically
25 sideways to stop the tanker when we need to and there

1 hasn't been enough really looked into how this DPF
2 equipment will affect the stability of our vessels. I
3 know there's been some collaboration and a lot of
4 meetings, and -- but specifically to that concern, we need
5 some more time to look at that, because it will change the
6 stability of our vessels, and that is a critical part.

7 Also, it can affect the horsepower. And, you
8 know, obviously a lack of horsepower would change our
9 capabilities there. And so I think for us what we'd like
10 to see is really, you know, some time spent with the naval
11 architects, the engine manufacturers, and everybody, you
12 know, along with CARB to take a very close look at that
13 topic.

14 The other issue we have is shipyard capacity.
15 It's hard to even get enough time right now to get our
16 ship -- our tugs painted. I get really concerned by
17 this ability to get the work done.

18 BOARD CLERK ESTABROOK: Thank you. That
19 concludes your time.

20 SHAWN BENNETT: Okay. Thank you.

21 BOARD CLERK ESTABROOK: Thank you.

22 Our next three speakers will be Barry McCooley,
23 Art Mead and Leela Rao.

24 Barry, we have your slides that you submitted in
25 advance, and so we will go ahead and pull that up. I will

1 run the timer and let you know, because you will not be
2 able to see it on the screen while your presentation is
3 up.

4 Go ahead and begin.

5 **3411** BARRY MCCOOEY: Thank you very much. I'm Barry
6 McCooey from M&H Engineering.

7 Next slide, please.

8 --o0o--

9 BARRY MCCOOEY: We have developed and designed a
10 set of marine engineered -- engines that are certified to
11 EU Stage 5 and U.S. Tier 4, and will also CARB's Tier 4
12 plus DPF regulations. Our design -- our engines are
13 designed to meet and exceed all present and future marine
14 emissions. We start with 55 to 317 kilowatts this year
15 being launched in Q3 and 350 to 680 kilowatts in Q3 next
16 year. Our engines are designed propulsion, generators, or
17 auxiliary applications, and are cooled as normal marine
18 engines would be.

19 Next slide, please.

20 --o0o--

21 BARRY MCCOOEY: Our engines, again we designed
22 the package to be as a replacement engine for all the Tier
23 2, Tier 3 engines out there being used today. They're
24 ideal for commercial passenger fishing vessels with wooden
25 and fiberglass construction or aluminium. We're aware of

1 these construction. We also have these constructions in
2 the UK and Europe. And this equipment will fit into it.
3 We understand weight, balance, trim is critical. Again,
4 our engines are designed to be direct replacements.

5 The layouts, configurations are exactly the same
6 as what you're used to, that 12 and 24 volt options. We
7 have front PTO options for hydraulics and generators --

8 BOARD CLERK ESTABROOK: Thirty seconds remaining.

9 BARRY MCCOOEY: -- designed to operate at sea
10 safely without compromising vessel handling.

11 Next slide, please.

12 --o0o--

13 BARRY MCCOOEY: The aftertreatment can be
14 remotely fitted in void spaces, or on deck, or behind the
15 engines. All our engines are packaged and protected, so
16 there's no hot surfaces, no fire risks, things like that.
17 The size of the aftertreatment on the 9-liter is
18 equivalent to two 25-liter drums. We've also gotten
19 engines designed for hazardous area applications, the
20 petrochemical barges, and hazardous applications.

21 Next up.

22 BOARD CLERK ESTABROOK: Thank you. That
23 concludes your time. We do have your slides. We have them
24 saved and received, and so they will be available. If you
25 submit them to the docket, we will also have them posted

1 electronically for others to see, but we do have your
2 slides and staff has them as well.

3 Art Mead, you may unmute and begin.

4 **3412** ART MEAD: Yeah. Thanks, Katie. Art Mead,
5 Crowley Maritime. Overall Crowley has almost no objection
6 to the proposed amendments to the Commercial Harbor Craft
7 Rule. However, there remains one material issue that must
8 be addressed. The proposed language includes a very
9 generalized definition of an articulated tug barge, known
10 as ATBs that includes ocean-going vessels.

11 Not all ATBs are the same and Crowley operates
12 several ocean-going vessel ATBs engaged in interstate
13 commerce along the United States west coast. These
14 vessels exceed 700 feet in length and transport in excess
15 of 120,000 barrels of bulk liquid energy. These vessels
16 are not harbor craft and spend only a small portion of
17 their operating hours in regulated California waters.

18 In fact, our OGV ATBs which do not separate are
19 longer than the U.S. Navy's Ticonderoga class guided
20 missile cruisers, hardly harbor craft. This is not a new
21 issue. With the passage of the At Berth Rule two years
22 ago, Crowley objected to exempting. OGV ATBs from that
23 rule. The resolution adopted by the Board at that time
24 directed staff to engage the ATB industry to determine the
25 best options for cost-effective emissions reductions that

1 recognize the unique nature of ATBs during the harbor
2 craft update.

3 In fact, the proposed harbor craft rule will
4 force Crowley's operations in California to cease by 2024.
5 The capacity reduction of two million barrels will be
6 replaced by less efficient foreign tankers, which are not
7 regulated as harbor craft, traveling across the globe,
8 increasing harmful air emissions with other unintended
9 harmful economic consequences to western states.

10 Crowley urges the Board to direct staff to
11 develop a pathway to acquire OGV ATBs to comply with shore
12 power requirements. Rather than drive Crowley's American
13 flag OGV ATB fleet out of the state, the CHC Regulation
14 should include more flexible and effective alternative
15 compliance pathways to achieve the emissions reductions
16 mandated. We look forward to continuing --

17 BOARD CLERK ESTABROOK: Thank you. That
18 concludes your time.

19 ART MEAD: -- discussions with the Board and staff
20 on addressing this important issue.

21 BOARD CLERK ESTABROOK: Our next speaker will be
22 Leela Rao. After Leela will be Scott Merritt, Rick
23 Powers, and Wayne Kotow.

24 Leela, you may unmute and begin.

25 **3413** LEELA RAO: Thank you, Chair Randolph and members

1 of the Board for the opportunity to make comments on the
2 proposed amendments to the commercial harbor craft
3 regulation. My name is Leela Rao and I'm with the Port of
4 Long Beach.

5 The Port supports the intent of this regulation,
6 substantial emission reductions from harbor craft, and
7 appreciates the efforts by CARB staff to engage
8 stakeholders throughout this rulemaking process. Together
9 with the Port of Los Angeles, the Port of Long Beach has
10 met with staff numerous times and submitted several
11 comment letters.

12 However, the issues from our most recent comment
13 letter remain unaddressed and staff propose 15-day
14 changes. Those comments still apply, but I'll focus my
15 comments today on the most significant issue for
16 compliance with the proposed amendments, the lack of
17 sufficient incentive funding for replacement of harbor
18 craft used at ports.

19 Although CARB staff continues to highlight
20 several funding programs as being available for harbor
21 craft projects, the reality is that these programs aren't
22 accessible to harbor craft operators. A prime example is
23 the Carl Moyer Program. While significant dollars are
24 allocated to Carl Moyer each year, the districts don't
25 often prioritize harbor craft. In addition, meeting the

1 cost effectiveness -- effectiveness requirements will be
2 very difficult for vessels requiring new builds, which
3 includes many tugboats due to their individualized and
4 compact designs.

5 Vessels required to be replaced or upgraded by
6 2025 will also be completely ineligible for Moyer funding
7 due to the cost-effectiveness requirements. DW funding is
8 similarly difficult to access, because it only
9 incentivizes retrofits instead of new builds and the
10 incentives are far too low. The ports are committed to
11 reducing emissions from harbor craft as evidenced by our
12 harbor craft technology advancement projects underway.

13 However, harbor craft continues to be one of the
14 most challenging sources of emission, in large part,
15 because many vessels need to be replaced, not retrofitted,
16 to provide enough space on board for emission control
17 technology, and the cost for the cleanest vessel
18 technologies is upward of \$20 million per vessel.

19 We respectfully ask the Board to direct staff to
20 ensure sufficient dedicated harbor craft funding sources
21 to aid in compliance with these proposed amendments.

22 Thank you.

23 BOARD CLERK ESTABROOK: Thank you.

24 Next will be Scott Merritt. Scott, you may
25 unmute and begin.

1 **3414** SCOTT MERRITT: Thank you. My name is Scott
2 Merritt. I've spent my entire 39-year professional career
3 serving the tug and barge industry. I've served as COO of
4 Foss Maritime, Chairman of the Board of AWO, Vice Chair of
5 the Harbor Safety Committee of San Francisco Bay. I've
6 spent the last three years supporting the towing industry
7 and attempting to understand the proposed rules and to
8 provide meaningful input to CARB staff in support of a
9 responsible regulation.

10 Unfortunately, the rule as written will be
11 difficult, if not impossible, to comply with, challenging
12 to administer and enforce, and disruptive to the supply
13 chain, lead to the loss of living wage jobs, and most
14 importantly be counterproductive to the goal of achieving
15 zero emission.

16 Because I understand my time is limited, I'm
17 going to start with an ask, one we've made to staff and
18 Board members, and follow with supporting notes as time
19 allows. They are all included in my written comments.

20 We ask that you allow low-emission, Tier 3 and 4,
21 engines to operate without modification for their useful
22 life of up to 25 years from the engine model year. When
23 adjusting for life expectancy of tugs versus trucks, this
24 is consistent with CARB regulations governing Class 8
25 trucks.

1 We propose an exchange when time is up that
2 vessel owners will retire those vessels and replace them
3 with zero-emission vessels or provide a penalty that would
4 fund zero-emission tug projects to ensure we made that
5 transition. This would all guarantee a steady
6 transformation from diesel to zero emissions starting in
7 the early 2030s and completing by the mid-2040s. Short of
8 this, we'd ask for the same consideration given the
9 commercial passenger fishing vessels by including us in
10 the Resolution 22-6 pathway.

11 We -- the justifications I'm going to run out of
12 time to go into, but I'd ask you to read our comments and
13 read the comments of AWO. And I thank you for your time.

14 BOARD CLERK ESTABROOK: Thank you.

15 Rick Powers, you may unmute and begin.

16 **3415** RICK POWERS: Thank you, Chair Randolph and
17 members of the Board. I am Captain Rick Powers, President
18 of the Golden Gate Fishermen's Association. Our
19 association membership comprises the majority of the
20 Northern California Coast Guard inspected passenger
21 fishing vessels. Thank you for your comments at the
22 November Board meeting and your appreciation for the
23 impact and consequences of the rule on the lives of our
24 members.

25 Our organization is in support of the draft Board

1 Resolution as it pertains to our sector. We share
2 everyone's desire for clean air and emissions reductions.
3 The fleet has been upgrading machinery for years as new
4 technology is available, and over 40 percent of the fleet
5 is using the best available technology that is safe to use
6 on our vessels. However, many in our fleet have not
7 previously been eligible for grant funding.

8 Critical to the solution that is now presented is
9 that there is an appropriate compliance path for us to
10 work with the CARB Board and the Legislature to expedite
11 lowering emissions for the fleet coast wide. This funding
12 support is critical, especially for our operators out of
13 the smaller ports that haven't had grant opportunities in
14 the past. We are fishermen, educators, and environmental
15 stewards. We care tremendously about the long-term
16 sustainability of our air and ocean resources. Working
17 together on a coast-wide solution provides our fishing
18 culture a future and will help to maintain our coastal
19 communities dependent on tourism.

20 The draft resolution will also ensure that while
21 we continue to work towards zero-emissions goals, we can
22 still operate and provide the valuable service of ocean
23 access to the regional community. This is especially
24 important for our marine education trips and sportfishing
25 services to those that economic -- economically are unable

1 to afford their own boat.

2 We look forward to working with the CARB staff in
3 the future to discuss next steps. Please approve the
4 changes related to CPFVs.

5 Thank you.

6 CHAIR RANDOLPH: Thank you. Our next speaker
7 will be Wayne Kotow. After Rain -- Wayne will be Steven
8 Brink, Kristin Joseph, and then Jim Luttjohann. Wayne,
9 you may unmute and begin.

10 **3416** WAYNE KOTOW: Good morning, Chair Randolph and
11 members of the Board. I'm Wayne Kotow, Executive Director
12 for Coastal Conservation Association of California. CCA
13 Cal represents the recreational angling community
14 throughout the state. Ocean access is paramount in the
15 efforts of our organization. We have worked for years
16 with SAC, Captain Rollo's Kids at Sea, CDF, and many other
17 organizations to provide opportunities to take kids for
18 their first fishing trip.

19 Several hundred thousand kids have been
20 positively impacted over the years by this effort. We are
21 also here to advocate and protect our resources,
22 environment, habitat, and the people who enjoy them. The
23 passenger sport fishing fleet is the gateway for so many
24 of our community to the ocean. Enjoyment, healthy
25 environment, and food for the table are all positive

1 impacts -- (clears throat) -- excuse me -- of the gateway.

2 I'm here today to share our support for the
3 resolution and compliance path presented to the commercial
4 passenger fishing vessels. It just makes sense. It
5 results in continued emissions reductions that still meet
6 our shared goals. It also maintains our critical ocean
7 access that we now know is so viable -- valuable since
8 coming out of our COVID lockdowns.

9 Thank you.

10 BOARD CLERK ESTABROOK: Thank you.

11 Steven Brink, you may unmute and begin.

12 Steven, are you there?

13 Okay. It doesn't look like you have unmuted, so
14 I will come back to you.

15 Kristin Joseph, you may unmute and begin.

16 **3417** KRISTIN JOSEPH: Good morning. My name is
17 Kristin Joseph and I represent R.E. State Engineering.
18 R.E. State is a small family-owned heavy marine
19 construction company headquartered in San Diego.

20 The proposed CHC amendments impact every single
21 piece of marine equipment we own. So needless to say,
22 we've been an engaged partner in the review process.
23 We've provided detailed comments to staff throughout the
24 process as well as to the Board in November, but we still
25 feel like our concerns have not been adequately addressed.

1 They include allowing reasonable time for upgrades and
2 extensions, providing funding for upgrades, and providing
3 flexibility and grant application requirements. We'd like
4 to see incentive-based compliance, so something like the
5 DOORS Program, and we'd like a small business phasing plan
6 included that allows for more time for small businesses.

7 In addition to the items that we just listed,
8 we'd like to request that CARB staff employ a maritime
9 expert that knows our vessels and their capabilities and
10 can serve as a liaison between stakeholders and CARB staff
11 to assist with the implementation of this new rule.

12 We would encourage the Board not to improve the
13 proposed regulations today. Although, we do recognize
14 that in the proposed resolution before you today, that
15 there is reso -- language that would allow staff to keep
16 working with stakeholders. If this item is approved
17 today, we would hope that the items I identified can be
18 work through before final adoption.

19 Thank you.

20 BOARD CLERK ESTABROOK: Thank you.

21 Steven Brink, let's try one more time. Can you
22 unmute and begin. It looks like you were unmuted briefly
23 and now you're muted again.

24 STEVEN BRINK: There we go.

25 BOARD CLERK ESTABROOK: There we go.

1 STEVEN BRINK: I think we can hear me now.

2 Thank you very much.

3 BOARD CLERK ESTABROOK: Yes, we can.

4 **3418** STEVEN BRINK: Thank you. So good morning, Chair
5 Randolph and Board members. I'm Steve Brink, California
6 Forestry Association, Vice President, Public Resources.
7 Today, I'm representing forest products shipments from the
8 port at Humboldt Bay on the north coast. And that's the
9 extent of my comments will be focused on that low-use
10 port.

11 We provided written comments back in November.
12 And they were catalogued and received and there's been no
13 written response that I can find about our comments, and
14 so that's why I'm here today verbally.

15 So the port at Humboldt Bay. Two inventoried
16 towing vessels, that's one percent of the statewide total,
17 one percent. CARB used the Port Emissions Inventory Data
18 from Port of Angeles, Port of Long Beach, Port of Oakland.
19 CARB did not use any data from the Port of Humboldt Bay,
20 which is not surprising, because the airshed at Humboldt
21 Bay is in attainment, and always has been, and will
22 continue to be in attainment for the foreseeable future.

23 With one percent of the towing vessels air
24 quality in attainment, only five to six freighters a year
25 at that port, a low-use port, I don't see any data that

1 would indicate that the Port of Humboldt Bay should be
2 administered the same as the Port of Long Beach or Los
3 Angeles, or any other major California port.

4 Humboldt Bay should be exempt from the commercial
5 harbor craft rule, period. Thank you for the opportunity
6 to comment.

7 BOARD CLERK ESTABROOK: Thank you.

8 Next will be Jim Luttjohann. After Jim will be
9 Max Cohen, Will Roberts, and Elliot Gonzales.

10 Jim, you may unmute and begin.

11 **3419** JIM LUTTJOHANN: Good morning. I'm the President
12 and CEO of Love Catalina Island, Catalina Island's tourism
13 authority, which encompasses the local chamber of
14 commerce, visitors bureau, and film office. I'm also a
15 life-long asthmatic, so I see all sides of the issue at
16 hand.

17 Love Catalina has over 250 businesses as members
18 working and residing on Catalina Island that are a hundred
19 percent dependent on visitors at tourism drives our local
20 economy. Those businesses and visitors need reliable and
21 affordable daily transportation to and from Catalina
22 Island. In a typical year, Catalina Island welcomes about
23 one million visitors, the majority of which traveled via
24 passenger ferry.

25 On behalf of Love Catalina and more than 1,000

1 petition signatories, who reside, work, and travel to and
2 from Catalina Island, all of which have been submitted --
3 sorry, lost my place there -- all of which have been
4 submitted as written testimony will remain deeply
5 concerned over CARB's proposed Harbor Craft Rules. The
6 lack of certainty of dedicated funding for commercial
7 ferries like Catalina Channel Express, and other passenger
8 ferries, to comply with the new regulatory mandates being
9 proposed is very troubling.

10 Without a new dedicated funding stream, Catalina
11 Express and other passenger ferries will not be able to
12 reach compliance and it's difficult to see how this
13 regulatory program will succeed without ferries like
14 Catalina Express as part of the solution.

15 Without State funding to make this transition
16 feasible, the current proposed regulations place an
17 impossible financial burden on Catalina Express and the
18 other ferry services as privately operated utilities
19 regulated by the CPUC. The negative consequences of these
20 new, swift, and costly regulations, without sufficient
21 funding for the transition to new vessels equipped with
22 Tier 4 engines, will negatively impact transportation,
23 safety efficiency, reliability --

24 BOARD CLERK ESTABROOK: Thank you.

25 JIM LUTTJOHANN: -- and affordability.

1 BOARD CLERK ESTABROOK: Thank you. That
2 concludes your time.

3 JIM LUTTJOHANN: Thank you.

4 BOARD CLERK ESTABROOK: Next will be Max Cohen.
5 You may unmute and begin.

6 3420 MAX COHEN: Hi. My name is Max Cohen. I'm a Cal
7 Maritime grad and I'm a Policy Analyst here at Curtin
8 Maritime. Curtin Maritime is a tug and barge operator
9 located in Long Beach, California. We operate primarily
10 in the marine construction sector and will be bringing
11 online the largest clamshell dredge on the west coast,
12 which is also a Tier 4 hybrid.

13 I would first like to thank CARB Board members
14 for engaging with us, specifically Vice Chair Sandra Berg.
15 I would also like to personally thank CARB staff Nick
16 Taylor for answering my nuanced questions regarding this
17 rule.

18 I would like to use my time to put on record some
19 of the concerns we have discussed and would like to work
20 with staff on the Board to continue to address.

21 First, we are concerned that the commercial
22 harbor craft compliance dates paired with the Carl Moyer
23 Program funding surplus regs requirements will not allow
24 vessel operators to get even half the lifetime out of
25 their engines, if they want to take advantage of these

3420.1
(cont.)

1 funds. All 2009 engines and prior will already be
2 disqualified from Carl Moyer Program due to its surplus
3 requirements. The 2012 engines will not even be allowed
4 to get the half of their useful life, if they are to be
5 eligible for Carl Moyer Program funds.

6 We are also concerned that South Coast AQMD is
7 not allocating Moyer funds for marine projects this year.
8 This is one of the most impacted air districts per CARB's
9 own assertion. This decision not to fund marine projects
10 this year is congruent with the implementation of the
11 Commercial Harbor Craft regs. We are concerned that this
12 is an unfunded mandate. The lack of concrete language in
13 the Moyer Program makes it difficult for commercial harbor
14 craft operators historically to apply for funding to go
15 zero emissions or to upgrade to cleaner diesel technology
16 as required by these regulations.

17 Next, we have concerns regarding safety and
18 stability. We want CARB to continue to be open and
19 transparent with the U.S. Coast Guard and an accreditation
20 body like American Bureau of Shipping to address the
21 following:

22 First, fire hazards due to increased temperature
23 from the aftertreatment systems required by the Commercial
24 Harbor Craft Rule.

25 Second, consider the vertical stability issues

3420.2

3420.2
(cont.)

1 for towing vessels as raised by the very CMA study which
2 is being used to justify these regulations.

3 The CMA study states that the --

4 BOARD CLERK ESTABROOK: Thank you.

5 MAX COHEN: -- towing vessels out of Code of Regu
6 -- federal regulation for subchapter (m) vessels.

7 BOARD CLERK ESTABROOK: Thank you. That
8 concludes your time.

9 MAX COHEN: Thank you.

10 BOARD CLERK ESTABROOK: Next will be Will
11 Roberts. You may unmute and begin.

12 3421 WILL ROBERTS: Good morning. Thank you for the
13 opportunity to testify on the draft Harbor Craft Rule. My
14 name is Will Roberts and I am the President of Foss
15 Maritime Company. I also serve on the board of the
16 American Waterways Operators as the Chair of the Pacific
17 Region. In California, we work out of both the Bay Area
18 and LA/Long Beach with over 12 vessels and over 160
19 employees.

20 For the last three years, we have met with the
21 CARB staff on the proposed rules. You may be surprised
22 that none of our industry's recommendations are reflected
23 in this draft. While I'd like to be able to cover all of
24 my concerns, I'll instead point to the American Waterways
25 Operators comments, which I support and will highlight

1 what I believe is the biggest issue with this rule. Our
2 industry has a proven track record of adopting the
3 cleanest technology when feasible. My company, Foss
4 Maritime, introduced the first two hybrid tugboats to
5 California in 2009 and '11 and has carbon canister
6 filtration systems installed on our bunker barge fleet to
7 reduce carbon emissions during load operations, both well
8 ahead had of the regulatory requirements to do so.

9 Over the last three years, Foss has spent over
10 \$16 million equipping and operating four new Tier 4
11 tugboats for California. All of these tugboats will now
12 need to be retrofitted. The engineering and upgrades will
13 cost millions of dollars for what are considered some of
14 the most environmentally leading tugboats in the world.
15 We have also upgraded multiple other vessel within our
16 fleet and those will need to be retrofitted as well.

17 A single retrofit could cost close to \$4 million
18 and a new harbor tug costs close to \$20 million. These
19 are significant investments, which will devastate
20 companies like mine, as we have recently spent so much to
21 retrofit.

22 My ask is will you create an exemption for
23 vessels currently with Tier 3 and above engines and allow
24 them to operate for their full useful life, with a
25 requirement that they'll be replaced after they're

1 retrofitted?

2 Please pass this current rule with these critical
3 modifications as to not destroy or already weakened supply
4 chain in California.

5 Thank you for your time.

6 BOARD CLERK ESTABROOK: Thank you.

7 Next will be Elliot Gonzales. After Elliot will
8 be Leah Harnish, Lynn Muench, and Rick Luliucci.

9 Elliot, you may go ahead and begin.

10 **3422** ELLIOT GONZALES: Good after -- good afternoon,
11 good day. I did just want to just make a really belief
12 comment about -- in support of the Harbor Craft Rule. I'm
13 here today as a member of the Sierra Club My Generation
14 staff. We signed on to a joint letter of some of our
15 coalition partners led by Earthjustice. And what we
16 included in our letter is, you know, basically we just
17 reiterated the fact that we want to reduce cancer risk.
18 Here, where I live in about -- about a mile from the Port
19 of Long Beach, we have high risk of cancer. We are in
20 severe non-attainment. It's very common for people to
21 have respiratory ailments, whether they're in adulthood,
22 whether they're children, any stage of their life. And we
23 just take cancer, and asthma, and pollution very
24 seriously.

25 And so we're asking CARB to do the same. We

1 thank you for including constituents that may not be
2 front-line communities, but we ask that you prioritize
3 those who are actually suffering from severe ailments like
4 cancer when you make this decision. So we are here to
5 encourage this Board to do the right thing and to require
6 a 100 percent zero-emission at a certain further point
7 next time you reevaluate a harbor craft. And that we just
8 want to remind you that a harbor craft is critical to
9 addressing our -- our climate goals. So thank you for
10 hearing us out and we do ask that you support this item
11 today. Thank you.

12 BOARD CLERK ESTABROOK: Thank you.

13 Leah Harnish, you may unmute and begin.

14 LEAH HARNISH: Can you guys hear me?

15 BOARD CLERK ESTABROOK: Yes, we can.

16 **3423** LEAH HARNISH: Great. Thank you.

17 Good morning. My name is Leah Harnish and I'm
18 the Government Affairs Associate at the American Waterways
19 Operators, or AWO, as you've heard, and I am our
20 specialist in clean air and water policy. Thank you for
21 the opportunity to testify.

22 AWO represents the largest portion of the
23 tugboat, towboat, and barge industry in the country with
24 over 300 members. Over the last three years, AWO and our
25 members have met with CARB staff and Board to discuss the

1 Commercial Harbor Craft Rule.

2 During these meetings, we've expressed our
3 concerns about the rule and our desire to help CARB
4 improve air quality, and reach our shared zero-emissions
5 goal.

6 AWO has submitted comments to the document, but
7 I'd like to highlight our concern about the data that was
8 used to craft this policy. When AWO first started meeting
9 with CARB -- CARB staff, we notified them that the data
10 they were relying on was not an accurate representation of
11 the number of vessels operating in California. Staff uses
12 a U.S. Coast Guard database that reports vessel ownership
13 and regulatory status. However, where a vessel is
14 registered does not necessarily equate to where they
15 operate.

16 AWO commissioned an independent vessel inventory
17 using the automatic identification system, or AIS. AIS
18 tracks the movement of vessels and this report found that
19 over 200 towing vessels operated within 100 nautical miles
20 of the California coast. Nearly -- or only 200, nearly 30
21 fewer than CARB had estimated.

22 Policies must be built on accurate information.
23 And while staff has told us that they are regularly
24 updating, their model, the proposed rule does not reflect
25 this. We ask that this rule not be approved, but instead

1 reviewed and updated with health benefits and cost
2 effectiveness to better reflect the numbers and impact
3 that vessels have that operate in California regulated
4 waters. Thank you for your time

5 BOARD CLERK ESTABROOK: Thank you.

6 Lynn Muench, you may unmute and begin.

7 **3424** LYNN MUENCH: Good morning, Madam Chair and CARB
8 Board members. My name is Lynn Muench. I'm the Senior
9 Vice President of The American Waterways Operators, the
10 national trade association for the tugboat, towboat, and
11 barge industry.

12 I'm pleased to report that we share CARB's and
13 Governor Newsom's goal of zero emissions. The towing
14 industry has embraced continual improvement over our
15 76-year history, especially when it relates to safety and
16 the environment. As an industry, we want what's best for
17 California and the nation's environment and its economy.

18 Unfortunately, this draft rule is not something
19 AWO can support. We ask you to take the unusual step in
20 voting no on it, pressing pause, and incorporating our
21 industry's input to improve this rule and make it
22 practical, possible, and safe for mariners.

3424.1 23 The amendment before you have been written
24 without meaningful collaboration with the towing industry.
25 As Leah had mentioned, the vessel counts are wrong and the

3424.1
(cont.)

1 total emissions are also wrong. When we tried to review
2 the work and provide input to the staff, no substantive
3 changes were made and the databases that we were given to
4 evaluate were mislabeled.

3424.2

5 As I said on the outset, the towing industry
6 embraces the same goal as the board, zero emissions. Our
7 industry is ready to go to zero emissions as soon as
8 possible, so we respectfully request that CARB vote no on
9 this, and add an exemption to the rule that allows vessels
10 currently with Tier 3 engines or above to operate for the
11 rest of their useful life with the stipulation that they
12 will be retired or become a zero-emission vessel once the
13 engine's life is up. In fact, we ask also for
14 consideration that has been given to other harbor craft in
15 this today.

16 We stand ready to work with CARB. And thank you
17 on behalf of the towing industry, the industry that moves
18 goods to California residents with the least amount of air
19 emissions per ton.

20 Thank you.

21 BOARD CLERK ESTABROOK: Thank you.

22 Next will be Rick Luliucci. Rick, you may unmute
23 and begin.

24 **3425** RICK LULIUCCI: Good morning. This is Rick
25 Luliucci with The Vane Brothers Company.

1 The tug, towboat, and barge industry is committed
2 to reaching zero emissions in the safest and most
3 efficient manner. However, the timeline proposed under
4 the new Harbor Craft Rule gives companies less than four
5 years to repower all of our vessels, and less than six
6 years to modify Tier 4 engines with diesel particulate
7 filters, which has not been invented for marine use.

8 This framework is neither financially feasible,
9 operationally achievable, nor responsible, as it
10 jeopardizes the safety of mariners and the viability of
11 businesses. Companies will rush the critical components
12 and not take the time necessary to ensure the retrofits
13 are completed and in a safe responsible manner.

14 While there is a one-year scheduling extension in
15 the proposed rule, the reality is this process goes
16 through multiple steps, including the United States Coast
17 Guard, which necessitates a much longer window. For the
18 sake and safety of our mariners and the sustainability of
19 this industry, we urge you to vote to amend the rule to
20 ensure that a safe timeline exists for mariners. Please
21 amend the deadline for complying with the diesel
22 particulate filter installation to no sooner than six
23 years from the date of the full approval of the United
24 States Coast Guard, the American Bureau of Shipping and
25 the engine manufacturers.

1 I'd like to touch upon an unfunded mandate of
2 DPFs within this Harbor Craft Rule. Without the
3 availability of manufacturer-approved diesel particulate
4 filters, CARB is requiring the adoption of untested,
5 unproven, and unavailable technology. How does CARB see
6 moving forward with Tier 4 engines when DPFs are not
7 feasible on current vessels. They make the leap because
8 they do not understand the industry, the importance of
9 mariner safety in their desire to make a farce of this
10 public process.

11 This technology currently does not exist, cannot
12 fit in vessels, and it's a known safety hazard in other
13 modes of transportation. As a solution, please do not
14 move forward with this bad public policy. In its place,
15 amend the deadline for complying with DPF installation to
16 no sooner than six years from the date of approval by
17 Coast Guard, American Bureau of Shipping, and the engine
18 manufacturers.

19 BOARD CLERK ESTABROOK: Thank you.

20 Next will be Graham Balch. And then Michael
21 Breslin, and Max Rosenberg.

22 Graham, you may unmute and begin.

23 **3426** GRAHAM BALCH: Hi. My name is Graham Balch with
24 Green Yachts.

25 CARB Board members and especially Davina Hurt,

1 who represents the San Francisco Bay Area, I am speaking
2 about ensuring that short-run ferries are zero-emission
3 without exceptions, an issue we were unaware of before the
4 November 19th Board meeting and thus unable to comment on
5 until now.

6 I've spoken to CARB staff and they have said that
7 the direction for addressing this issue must come from you
8 the Board members to be changed. We are proud that
9 California's the first state in the nation to require some
10 vessels to be zero-emission through these proposed CHC
11 regulations.

12 However, as written, the short-run ferry
13 definition in these regulations allows diesel boats to
14 game the regulations by adding legs or adding one long
15 leg, and by doing so operate a diesel boat on a short-run
16 route for which vessels are required to be zero-emission.
17 This loophole will cause over 2,000 tons of increased CO2
18 emissions in the San Francisco Bay every year.

19 Board members, please direct CARB staff to
20 include language in the 15-day change that close the
21 loophole in the short-run ferry definition that currently
22 allows diesel boats to operate diesel boats -- sorry -- on
23 zero-emission short-run ferry routes. We have submitted a
24 detailed written comment, but the direction has to come
25 from you.

1 Thank you.

2 BOARD CLERK ESTABROOK: Thank you.

3 Next will be Michael Breslin. Mike, you can
4 unmute and begin.

5 **3427** MICHAEL BRESLIN: Thank you, Chair Randolph and
6 Board members. My name is Michael Breslin. I'm the
7 Director of Safety for the American Waterways Operators.
8 I am the safety expert for the tugboat, towboat, and barge
9 industry. My testimony is about diesel particulate
10 filters or DPFs. A simple Google search for DPFs for
11 California will return a record of the dangerous history
12 and ongoing issues with these devices. This mandate, if
13 passed unchanged, will require vessel owners to install
14 these unsafe devices, increasing the chance of a fire
15 aboard their boats.

16 Before you require -- (clears throat) -- Excuse
17 me. Before you require DPFs, I would ask that you better
18 understand these devices, which frankly do not exist in a
19 way that they could be safely installed in the proposed
20 marine applications. DPFs do not reflect best available
21 technology to support the advancement of clean technology.
22 Rather, it will cause an untenable burden on mariners and
23 possibly increase the carbon footprint of California by 14
24 boat owners to build new vessels or complete major
25 overhauls of their current vessels. This rule does not

1 meet its goal to reduce carbon output.

2 I would like you to know there is not the space
3 needed for these devices on existing vessels. There's no
4 room to install the large filters. And if somehow you
5 could build the space, it would impact that stability of
6 the vessel as established by Cal Maritime study, which
7 raised this concern.

8 Again, even if we could build in room for the
9 DPFs and we somehow made the vessel stable and had it
10 certified by a marine engineer, the pressure created by
11 the DPF would damage the engines, and the heat generated
12 by the DPFs may make the vessels unsafe to operate. DPFs,
13 even once approved, will not be ready use and will require
14 extensive engineering studies to determine if and how they
15 can be safely integrated into existing vessels.

16 It is unreasonable to require the implementation
17 of unproven and untested technology. As I indicated a
18 moment ago before any work is started to figure out how to
19 install DPFs and engineering study must determine its safe
20 installation of the specific make and model of the engine.
21 This is a cost that must be absorbed by our maritime
22 operators adding to the financial burden your rule is
23 imposing without consideration to the economic devastation
24 it will bring to America's supply chain by forcing
25 operators out of business, reducing capacity --

1 BOARD CLERK ESTABROOK: Thank you. That
2 concludes your time.

3 MICHAEL BRESLIN: -- without (inaudible).
4 Thank you.

5 BOARD CLERK ESTABROOK: Next will be Max
6 Rosenberg. After Max will be Rebecca Baskins, Misagh
7 Tabrizi, and Frank Ursitti.

8 Max, you may unmute and begin.

9 3428 MAX ROSENBERG: Hello. My name is Max Rosenberg,
10 a Bay Area native and engineering manager with Vane
11 Brothers. I thank you for the opportunity to comment
12 today.

3428.1

13 The rule before you for a vote today is very
14 disappointing. It avoids opportunities for meaningful
15 incentive-based development of real emissions-reducing
16 technologies. Instead, it promotes de minimis emissions
17 reductions at huge costs that put California commerce,
18 jobs, and mariner safety at risk. This regulation is not
19 a bridge to zero-emissions. It is an off-ramp that we
20 take at great cost. The regulation requires equipment
21 that is unsafe, unproven, and frankly unavailable. CARB
22 expects major vessel refits in a completely unrealistic
23 timeline with very little account for lack of feasibility.

3428.2

24 Tug and barge movement generates less than half
25 the emissions of alternative modes, such as road or rail.

3428.2 (cont.) 1 However, this rulemaking is predicated on the false
2 inference that commercial harbor craft are a leading
3 emissions contributor.

3428.3 4 The inclusion of ocean-going articulated tug
5 barges in the harbor craft regulation ignores a prior
6 Board resolution to work with the industry in considering
7 their unique nature. This vessels perform most of their
8 work offshore competing with other vessels that are not
9 covered by the CHC regs.

3428.4 10 We ask for a regulation that sets rational goals
11 for harbor craft to effect meaningful emissions
12 reductions, modify compliance deadlines for in-use Tier 3
13 or better engines, so that operators can realize a
14 reasonable portion of useful life, and allow adequate time
15 for engineering safety reviews and project timelines.

16 Postpone the requirement for diesel particulate
17 filters until a vessel's major -- next major shipyard
18 period after the equipment has been certified is safe.
3428.5 19 Require the articulated tug barges to meet ocean-going
20 vessel At Berth Regulations instead of regulations for
21 harbor craft, which they are not. Provide an alternative
22 compliance pathway to promote the development of

3428.6 23 zero-emissions technologies by allowing owners of vessels
24 with Tier 3 or better engines to run them for the full
25 usable life for operators that commit to replacing or

1 refitting vessels --

2 BOARD CLERK ESTABROOK: Thank you. That
3 concludes your time. Rows

4 MAX ROSENBERG: -- with the best available
5 zero-emissions technology at the end of that period.

6 BOARD CLERK ESTABROOK: Our next speaker is
7 Rebecca Baskins. Rebecca, you may unmute and begin.

8 3429 REBECCA BASKINS: Good morning, Chair and Board
9 members. Rebecca Baskins on behalf of the California
10 Advanced Biofuels Alliance. We are the state's trade
11 association for renewable diesel and biodiesel.

12 First, I would like to thank the staff for the
13 inclusion of renewable fuels in these amendments to the
14 Harbor Craft Regulation, but we would like to see the
15 inclusion of other renewable fuels, like biodiesel and
16 renewable diesel blends.

17 Blending renewable diesel and biodiesel together
18 maximizes the environmental and economic profiles of both
19 fuels. For example, a blend of renewable diesel at 80
20 percent and biodiesel at 20 percent is similar in NOx
21 reductions, but reduces more particulate matter than R99.
22 Blends can also help alleviate cost and supply concerns.

23 I also want to note that the proposed Appendix E
24 regarding biodiesel reflects outdated and false data on
25 biodiesel. Thus, we believe it should be removed or

1 updated to reflect the current data in the 15-day change.

2 Again, we thank you for your hard work on this,
3 but we believe the State is missing out on important
4 emission reductions by the exclusion of biodiesel in this
5 regulation.

6 Thank you.

7 BOARD CLERK ESTABROOK: Thank you.

8 Next is Misagh Tabrizi. You may unmute and
9 begin.

10 **3430** MISAGH TABRIZI: Thank you. My name is Misagh
11 Tabrizi, representing Nett Technology, a Canadian
12 manufacturer of mature emission technologies, such as DPFs
13 and SCRs. The Board might be interested in hearing about
14 our recent successful CHC retrofit demonstration project
15 and how we worked with the U.S. Coast Guard on the design
16 and safety approval processes.

17 Currently, we are pursuing CARB verification for
18 this mature retrofit technology for CHC market aiming to
19 meet the proposed and future emission reductions of oxides
20 of nitrogen and diesel particular matter.

21 In short, our coordinated efforts with Coast
22 Guard resulted in our retrofit technology to meet
23 applicable codes on construction material both in terms of
24 the thickness and choice of material meeting applicable
25 electrical wiring codes, and meeting the skin surface

1 temperature requirement; additionally, the design products
2 with net weight increases of less than five percent; a
3 modular compact design with adequate thermo management,
4 available for all CHC applications ranging from low to
5 high duty cycles; comparable back pressure on engines
6 pre-, post-retrofit; and a fully automated system with the
7 least amount of operator engagement.

8 Separately in terms of the market readiness, I'm
9 happy to report that Nett Technologies has internal plans
10 for direct sales to end-users and fleets, to distribution
11 channels, and licensed in the technology to be able to
12 reduce the time it takes to provide this mature technology
13 to California, after granting the CARB verification.
14 Thank you.

15 BOARD CLERK ESTABROOK: Thank you.

16 Next will be Frank Ursitti. After Frank will be
17 Andrea Lueker, Catherine Garoupa White, and then Bill
18 Magavern.

19 Frank, you may unmute and begin.

20 **3431** FRANK URSITTI: Good morning. Thank you, Chair
21 Randolph and members of the Board. My name is Frank
22 Ursitti, owner of H&M Landing, California's largest
23 sportfishing terminal. I also serve on the Board of
24 Directors for the Sportfishing Association of California,
25 and have been directly involved in this process throughout

1 its evolution.

2 On behalf of myself and others in our fleet, we
3 are in support of the CPFV extension path presented in the
4 resolution before you. This has been a long and difficult
5 process for our vessel owners. Their life's work and
6 legacies are on the table. Also, on the regulatory menu
7 is the future of affordable ocean access for all who
8 endeavor to venture forth upon the sea.

9 Both concerns have been addressed today by what's
10 been presented. I feel the effort is now positive,
11 constructive, and most important emission reductions are
12 achievable. There is an absolute willingness by our fleet
13 to collaborate with CARB and strive for continued
14 reductive measures in the future. The past 24 years of
15 emissions reductions using clean air attainment grants is
16 proof of the CPFV fleet's resolve.

17 I want to recognize Mr. Richard Corey, and Edie
18 Chang, and the CARB staff who took the time to engage
19 stakeholders here in San Diego. The information exchange
20 was sincere and brought everyone together towards a shared
21 and common goal.

22 I also want to acknowledge former Board Member
23 Nathan Fletcher. His willingness to support our sector
24 helped facilitate dialogue for an equitable resolution.

25 I ask that you approve the amendments as

1 proposed. Thank you.

2 BOARD CLERK ESTABROOK: Thank you.

3 Andrea Lueker, you may unmute and begin.

4 ANDREA LUEKER: Good morning. Are you able to
5 hear me?

6 BOARD CLERK ESTABROOK: Yes, we are.

7 **3432** ANDREA LUEKER: Perfect. My name is Andrea
8 Lueker. I am the President of the California Association
9 of Harbor Masters and Port Captains. Our Association has
10 been around for 74 years and our membership includes over
11 70 harbors, ports, and marinas in California, as well as a
12 number of marine-related businesses.

13 While we acknowledge that there is still work to
14 do, we're relieved that the originally proposed
15 regulations have been amended to be more feasible and
16 relative. Thank you in advance for your vote on this.

17 One important point I want to leave with you
18 today is just a comment on the process. What we've all
19 gone through on the Harbor Craft Regulations for the past
20 many months has been difficult and debilitating for many
21 of those who were rightfully so fearful of losing their
22 businesses. We've all heard those gut-wrenching
23 testimonies. And for those of us in the trenches, we've
24 spoken to business owners in person who were basically
25 ready to throw in the towel prematurely.

1 On a positive note, we're glad where we are today
2 on this issue. We do thank you for your efforts on
3 this -- on this issue. We look forward to your vote on
4 the resolution, working with you in the future, and have a
5 good rest of your meeting.

6 Thank you.

7 BOARD CLERK ESTABROOK: Thank you.

8 Next will be Catherine Garoupa White. Catherine,
9 you may unmute and begin.

10 **3433** DR. CATHERINE GAROUPA WHITE: Good morning. This
11 is Catherine Garoupa White with the Central Valley Air
12 Quality Coalition. CVAQ, with partners, submitted a
13 letter supporting expeditious adoption and enforcement of
14 this rule to provide necessary relief to already
15 overburdened communities like the Port of Stockton and
16 surrounding areas.

17 I'm going to share comments from CVAQ's Stockton
18 based environmental justice intern who couldn't be here
19 today due to class, Nahui Gonzalez Millan.

20 "According to the Centers for Disease
21 Control, 1 in 12 children in the U.S. have
22 asthma, but in the San Joaquin Valley where I
23 live, research shows that 1 in 4 children have
24 asthma. The high levels of fine particles in the
25 valley contributes to poor air quality and higher

1 rates of asthma.

2 "I work as a pre-school teacher assistant in
3 Stockton. There are 16 children in my classroom
4 and four have asthma. These children have so
5 much energy for learning and school. They love
6 to dance and blow bubbles when they're outside.
7 They play chase during their outdoor play and
8 love to be with their friends. In one moment,
9 all of that changes. Activity becomes too much
10 for their bodies, their faces drop, and their
11 breathing becomes desperate. They have to slow
12 down and stop.

13 "The children in my classroom have done
14 nothing except breathe the air around them and
15 that has caused a condition they will have to
16 manage for as long as they live. In Stockton
17 Unified, approximately 30 percent of children
18 live in poverty. Their families live in areas
19 that are close the pollutants, such as railroads,
20 industrial areas, and the port.

21 "Our government institutions must protect the
22 children and families in our city from factors
23 that damage their health and quality of life. As
24 a concerned Stockton community member who is also
25 impacted by pollution from ships and other

1 sources, I urge CARB to adopt a strengthened
2 Commercial Harbor Craft Rule to hold commercial
3 harbor crafts accountable for the pollutants that
4 they bring to the area, and to expedite the
5 transition to zero emissions for all commercial
6 harbor crafts to ensure the air quality of the
7 area and the health of residents in Stockton.

8 Thank you".

9 BOARD CLERK ESTABROOK: Thank you.

10 Next will be Bill Magavern. After Bill will be
11 Mariela Ruacho, and Floyd Vergara, and Teresa Bui.

12 Bill, you may unmute and begin.

13 **3434** BILL MAGAVERN: Good morning. Bill Magavern with
14 the Coalition for Clean Air in support of the resolution
15 in front of you today. At the November Board hearing, I
16 asked that you adopt these amendments to the rule early in
17 2022 with no weakening and you're now poised to do exactly
18 that.

19 We appreciate that the staff have run a process
20 that gave every opportunity for public participation and
21 was very inclusive and certainly lengthy. This rule will
22 save over 500 lives and hundreds of hospitalization, and
23 reduce both toxic particulate matter and also regional
24 smog.

25 It puts the cleanest engines into place that are

1 available today to replace dirty old diesel engines and
2 also requires the use of renewable diesel to lower
3 emissions further. It also includes added protection for
4 disadvantaged communities that are bearing the worst
5 burdens of air pollution.

6 So we support the change that's proposed here for
7 the sportfishing fleets, because it will reduce emissions
8 sooner and greater overall, and then allow that
9 flexibility that we hope will result ultimately in those
10 vessels going to zero emission.

11 Thank you very much.

12 BOARD CLERK ESTABROOK: Thank you.

13 Mariela Ruacho, you can unmute and begin.

14 **3435** MARIELA RUACHO: Hi. I'm Mariela Ruacho with
15 American Lung Association. Thank you, Chair, for the
16 opportunity to comment here today. We see this rule as a
17 critical public health measure and an important
18 opportunity to address health inequities. We urge its
19 adoption today. Health and medical organizations like the
20 American Lung Association, the American Cancer Society,
21 the California Medical Association, the Long Beach
22 Alliance for Children with Asthma and others have
23 previously weighed in in -- to support the Commercial
24 Harbor Craft Rule.

25 To shift to -- the shift to cleaner and

1 zero-emission engines from the commercial craft sector
2 will cut smog and particle-forming NOx and most
3 importantly reduce cancer risk to portside communities,
4 which is not included in the monetization of health
5 benefits.

6 In addition, the rule will provide the following
7 avoided health outcomes as highlighted by staff, which is
8 the 531 premature deaths, 161 hospital emissions, 236
9 emergency room visits, and an estimated \$5.25 billion in
10 health benefits between 2003 and -- '23 and 2038.

11 We want to thank the staff's diligent work
12 to con -- to continue the conversation with stakeholders
13 and find innovative pathways to ensure a strong rule,
14 delivers near-term and lasting health benefits. We
15 support the proposed amendments and ask the Board to
16 approve the rule -- to finalize the rule today.

17 Thank you.

18 BOARD CLERK ESTABROOK: Thank you.

19 Floyd Vergara, you can unmute and begin.

20 FLOYD VERGARA: Great. Can you hear me?

21 BOARD CLERK ESTABROOK: Yes, we can.

22 **3436** FLOYD VERGARA: Great. Thank you. Good morning,
23 Chair Randolph, Board members and CARB staff. Thank you
24 for the opportunity to speak today. I'm Floyd Vergara
25 with Clean Fuels Alliance America, the U.S. trade

1 association representing the entire supply chain for
2 biodiesel, renewable diesel, and to a growing extent
3 sustainable aviation fuel. My comments will reinforce the
4 comments you heard earlier from Rebecca Baskins with the
5 California Advanced Biofuels Alliance.

6 We believe the proposal requiring the use of 99
7 percent renewable diesel blends, or R99, is an important
8 step in the right direction, and we appreciate the staff's
9 willingness to discuss ways in which the proposal can be
10 improved. Unfortunately, the proposal remains
11 unnecessarily restrictive, in that it only allows R99
12 exclusively.

13 As laid out in our written comments, we believe
14 the optimal solution would be to allow the use of other
15 blends, such as 80 percent renewable diesel and 20 percent
16 biodiesel blends or R80/B20 in addition to R99. Both fuel
17 -- both fuel blends reduce GHGs and NOx by significant
18 degrees, and both fuels reduce particulates substantially,
19 R80/B20 by about 29 percent and R99 in the proposal by
20 about 27 percent, according to CARB data.

21 It's that additional benefit of reducing diesel
22 PM with R80/B20 that I want to highlight for the Board,
23 since any additional reductions in diesel PM will greatly
24 benefit environmental justice communities, many of which
25 are located near the ports.

1 I also note that many of the very lowest carbon
2 pathways for liquid biofuels are made in this state by
3 California biodiesel producers, including New Leaf Biofuel
4 in San Diego, Crimson Renewable Energy in Bakersfield, and
5 Imperial Western Products in Coachella. In-state
6 biodiesel producers employ many Californians and support
7 million of dollars in economic activity. Excluding
8 biodiesel from this proposal would prevent these
9 California producers from being able to bring their lowest
10 polluting fuels for use in harbor craft to benefit all
11 Californians.

12 There's a number of factual errors we address in
13 our written comments. We urge you to direct staff to
14 provide a minor 15-day change to allow the use of R80/B20
15 and other biodiesel blends --

16 BOARD CLERK ESTABROOK: Thank you. That
17 concludes your time.

18 Next will be Teresa Bui. After Teresa will be a
19 phone number ending in 977, Matt Holmes, and then Jennifer
20 Case.

21 Teresa, you may unmute and begin.

22 **3437** TERESA BUI: Good morning, Chair Randolph and
23 Board member. This is Teresa Bui with Pacific
24 Environment. We are pleased with the strong and
25 meaningful direction of this rule and just want to

1 knowledge all the hard work done by staff to get to this
2 the point.

3 We greatly appreciate all the stakeholder
4 outreach that has been conducted. And while we had
5 ultimately hoped for a hundred percent zero-emission
6 mandate for all vessel segments out of this ruling, given
7 the urgency of ending toxic fossil fuel pollution in
8 California and moving all transportation sources off
9 fossil fuel, we feel the final rule is still a meaningful
10 step forward to end ship pollution and are in support.

11 This is the first-in-the-nation standard on
12 commercial harbor craft and want to thank CARB for your
13 leadership on this rule to set zero-emission standards for
14 short-run ferries and excursion vessels. Harbor craft is
15 one of the top three sources of cancer risk around the
16 ports of LA, Long Beach, and Oakland and they're work is
17 not over yet. We need to get all the other vessel
18 categories to zero emission as well.

19 We especially need zero-emission vessels in the
20 areas that are in non-attainment with the Clean Air Act.
21 And we are excited to see the frequent technology review
22 and the tech -- technical working group, as we're seeing
23 rapid market maturation for electric boats, ferries, and
24 vessels in South Korea, China, Singapore, and the EU and
25 beyond. We look forward to working with you all to

1 rapidly transition the rest of the vessel segments to zero
2 emission. And than you again.

3 BOARD CLERK ESTABROOK: Thank you.

4 Next is a phone number ending in 977. Please
5 state your name for the record and then I will let you
6 know when you have 30 seconds remaining and when your time
7 is up.

8 And you will need to press star six to unmute.

9 **3438** TOM BABINEAU: Thank you. I want to thank staff
10 and Board members for this opportunity to provide support
11 for this regulation. My name is Tom Babineau. I
12 represent Rypos and active DPF manufacturer. Since 1996,
13 Rypos has produced tens of thousands of active DPFs that
14 have operated for more than 50 million hours to date
15 without a safety incident.

16 Like many of the previous regulatory efforts,
17 regulations and technologies are necessarily advancing in
18 parallel, so there's a natural tendency for us all to ask
19 are these technologies ready? Have they been tested?
20 Will they work?

21 I've attended all the public workshops and this
22 is a constant theme. Given that DFP's effectiveness to
23 reduce PM is proven, I'd like to spend my time today on
24 readiness and durability, which by extension, speaks to
25 safety.

1 DPFs, if sized properly and used on compliant
2 engines, have accommodated all forms of engine load cycles
3 for years. They're successful in the ports and RTGs
4 offloading container ships and are successful on TRUs that
5 deliver food across the nation. They've been around for
6 years. They've been tested over time and they're proven
7 to uncover -- the ARB process of verification has been
8 tested over time and has proven to uncover and weed out
9 problems.

10 In order to find the uncharted problems, however,
11 testing is not only required by ARB through the
12 verification process, but we do our own of course. So we
13 don't need the headaches that threaten our very existence.

14 So in 2006, Rypos retrofitted a U.S. Navy barge,
15 which operated for over 19,000 total combined hours
16 without incident. In 2014, the U.S. Office of Naval
17 Research in partnership with UC Riverside --

18 BOARD CLERK ESTABROOK: Fifteen seconds.

19 TOM BABINEAU: -- independently tested these DPFs
20 and found them to be operating as designed. Again, zero
21 operational safety issues have occurred.

22 We presently have --

23 BOARD CLERK ESTABROOK: Thank you.

24 TOM BABINEAU: -- two DPFs --

25 BOARD CLERK ESTABROOK: That concludes your time.

1 If you could state your last name for the record again,
2 that would be great.

3 TOM BABINEAU: Yeah. Thomas Babineau.

4 BOARD CLERK ESTABROOK: Thank you.

5 TOM BABINEAU: I will submit these in writing
6 too. Thank you.

7 BOARD CLERK ESTABROOK: Okay. Sounds great.
8 Thank you.

9 Next will be Matt Holmes. You may unmute and
10 begin.

11 **3439** MATT HOLMES: Good morning, Chair Randolph and
12 members of the Board. I'm Matt Holmes. I'm a portside
13 resident of Stockton, California, and I am, of course, in
14 strong support of passage of the strongest possible
15 Commercial Harbor Craft Rule.

16 This is an easy one for me, because I'm in
17 Stockton, where there aren't any leisure craft or fisher
18 fleets to speak of. We just have industrial operations
19 that are filling their bank accounts on the daily while
20 foot dragging on upgrading their equipment to maximize
21 profits, while we die more or less ten years earlier than
22 everyone else on this call.

23 We're the state's industrial colony and we live
24 in constant non-attainment with the Clean Air Act. This
25 rule is one more measure California can put in place to

1 let the Feds know that at least CARB is doing its parts to
2 address non-compliance, since we know we can't count on
3 our regional air district to take the Clean Air Act
4 seriously.

5 And I really sympathize with some of the smaller
6 operators we've heard from today and I wish there was a
7 more nuanced application of the rule that acknowledged
8 this difference. I'll be the first person to sign a
9 waiver for the guide taking disabled youth out on the
10 water. Lumping him in with somebody dragging the ocean
11 floor should give everybody on here pause. You know,
12 maybe we could figure out how to do that based on annual
13 operating costs. And while there should maybe be a public
14 benefit assessment for compliance deadlines for some of
15 these folks, no doubt for the rest of them I'd say if
16 someone can't afford to run a safe boat, then maybe
17 they're in the wrong line of business.

18 You know, I'd like to live in Lake Tahoe, but my
19 capacity to do so remains challenged by the cost. Is
20 there a CARB program that can make my unnecessary dreams
21 come true? I don't think so.

22 For the concerns we've heard today, I'll just gut
23 check the Board, that these pleas that we're hearing, you
24 know, they aren't un resistance to your rule. It's about
25 the stinging awareness that they've never really paid all

1 of their own bills. This self-reliance crowd seems to be
2 addicted to externalizing their costs in the portside
3 communities. It's high time welfare-addicted businesses
4 in California learned how to pay their own bills and stop
5 pretending to get their businesses to pencil out by
6 burying their unaddressed pollution in our bodies. No one
7 has a right to run a dirty business, while we all have
8 equal protection under the law and a right to an entire
9 first-world lifespan.

10 Please center in your minds the stats on cancer
11 and other respiratory distress that your team has and
12 while these operators pull out their pockets demanding
13 subsidies.

14 I'll closeout by reminding you that you've never
15 subsidized our hospital bills.

16 BOARD CLERK ESTABROOK: Thank you. That
17 concludes your time.

18 Next will be Jennifer Case. After Jennifer will
19 be Nilda Langston, Sylvia Bentancourt, and then a phone
20 number ending in 990.

21 Jennifer, you can unmute and begin.

22 **3440** JENNIFER CASE: Good morning. Thank you, Chair
23 Randolph and the Air Resources Board members. Our
24 business New Leaf Biofuel in San Diego recycles used
25 cooking oil from San Diego restaurants and converts it to

1 biodiesel fuel, an ultra low carbon fuel that achieves an
2 80 percent reduction in carbon emissions compared to
3 petroleum diesel.

4 We commend the Board for continuing to push for
5 regulations to some day achieve a fully zero-emission
6 fleet of vehicles both on-road and marine. However, we
7 believe that CARB is missing a huge opportunity by not
8 recommending biodiesel as an alternative to achieve
9 improved air quality goals in this regulation.

10 As mentioned by a previous speak, the renewable
11 diesel supply is already very strained and we're all
12 experiencing extreme hardship right now with the rise in
13 fuel prices. Biodiesel is readily available in San Diego
14 and all up and down the coast of California and it's
15 priced at a substantial discount to petroleum and
16 renewable diesel.

17 Blending renewable diesel and biodiesel together
18 maximizes the environmental and economic profiles of those
19 fuels. For example a blend of RD and -- at 80 percent and
20 bio at 20 percent is similar in NOx reductions, but
21 reduces more particulate matter than R99. It is also the
22 best available solution to address asthma and cancer
23 concerns while the state waits for zero emission to be
24 fully implemented. We urge CARB to reconsider the
25 exclusion of biodiesel in this important regulation for

1 the benefit of the environment, the economy, and small
2 businesses.

3 Thank you.

4 BOARD CLERK ESTABROOK: Thank you.

5 Nilda Langston, you may unmute and begin.

6 **3441** NILDA LANGSTON: Good morning, everyone. I am
7 Nilda Langston. I operate a glass-bottom boat in Long
8 Beach. And as the only Latina-owned company, I can tell
9 you that the -- I support the green goals that we have for
10 the State. And these are aggressive goals. But at the
11 same time, I ask you to consider that with a aggressive
12 goals comes the need for aggressive funding, and that's
13 not available.

14 Even to get to Tier 3, with the new -- with the
15 new guidelines today, my funding to move to Tier 3 reduced
16 to 20 percent of the project. And to be able to amortize
17 a loan in a short amount of time, I won't be able to even
18 get the life of the engine out of that type of loan on
19 funding.

20 And while we support -- we're just a small team,
21 small operators, we a hundred percent support the goals of
22 the State. And we want to do everything we can to produce
23 clean emissions. But at the same time, I ask you to
24 consider all the aspects that this includes. We're just
25 coming out of a hard, hard couple of years, all of us

1 having to deal with COVID, having to deal with labor
2 issues that has happened as a result of COVID, and the
3 lack of -- or the generalization of the problem is where I
4 ask staff -- which they've been great. They've been great
5 on certain questions, and emails, and providing the
6 extensions. That's a relief to hear about the extensions
7 today, because I -- to tell you the truth, I didn't know
8 what was going to happen to our little company here.

9 And so I just ask you to reconsider and maybe put
10 a pause, because with -- like I say, with the aggressive
11 goals requires aggressive funding that is not available
12 for all of us.

13 Thank you.

14 BOARD CLERK ESTABROOK: Thank you.

15 Next will be Sylvia Betancourt. After Sylvia
16 will be a phone number ending in -- oh, it looks like
17 Sylvia just dropped off.

18 So a phone number ending -- Oh, Sylvia, I see
19 your hand went back up. Okay. Sylvia Betancourt and then
20 a phone number ending in 990, and William Smith.

21 Sylvia, you can go ahead and begin.

22 **3442** SYLVIA BETANCOURT: Good morning. Sorry. I
23 dropped my hand in anticipation of getting my comment.

24 My name is Sylvia Betancourt. I work at the Long
25 Beach Alliance for Children with Asthma. We're based at

1 Miller Children's and Women's Hospital of Long Beach and
2 we're part of the Asthma Center of Excellence, which is
3 one of two centers on the west coast. And we take on this
4 particular illness as we know that there is a high asthma
5 rate in our region and that we have the challenge of air
6 pollution.

7 I want to also thank the California Air Resources
8 Board and staff for all of your hard work on this
9 particular ruling and on this -- on this issue. I'm
10 calling in support. And I urge the Air Resources Board to
11 pass the strongest possible Commercial Harbor Craft Rule
12 today.

13 I want to highlight the work that we do is
14 directly on the front lines working with children who have
15 asthma. Our hospital serves 70 percent -- 70 percent of
16 our patients are Medi-Cal patients. And the majority of
17 our families that we serve are in the harbor region. And
18 many of these children face diesel exposure daily. We
19 know that diesel exposure has a huge impact on children's
20 health. We know that this regulation would dramatically
21 reduce diesel pollution in Southern California, and where
22 harbor craft constitute one of the top resources of DPM in
23 the region.

24 We know that medicine is a solution for illness,
25 but medicine is a reaction. What we need is to address

1 the problem at the source. We need to have children in
2 school, not in the hospital or the ER. We need their
3 parents and their caregivers at work and not at home
4 taking care of children, missing work, and putting
5 themselves in more vulnerable position to having to miss
6 work. So we ask that the Board take action to safeguard
7 current and future generations in the harbor region.

8 Thank you for your time.

9 BOARD CLERK ESTABROOK: Thank you.

10 Next will be a phone number ending in 990.

11 Please state your name for the record before you begin.

12 And next after the phone number ending in 990 we will hear
13 from William Smith, Tim French and Harry Simpson.

14 You should be able to press star six to unmute
15 and then you can begin.

16 HARVEY EDER: Hello. Am I being heard?

17 BOARD CLERK ESTABROOK: Yes, you are.

18 **3443** HARVEY EDER: Okay. Good afternoon -- I mean,
19 good morning. My name is Harvey Eder. I'm speaking for
20 myself and for the Public Solar Power Coalition and
21 like-minded folks and entities.

22 I'm not as up on the details of this as I should
23 be. I heard a number that -- with this rule that 500
24 deaths are going to be prevented. Okay. I don't know if
25 that's 500 over -- per year or over 10 years, 50 a year.

1 Okay. But here's -- here's the things that -- that we've
2 been working on and have brought to you all.

3 The history of the cost of premature deaths, in
4 the '07 plan, it was 7 -- 3 -- 3.5 million for premature
5 deaths. And in the '12, plan it was -- it was seven
6 million for premature death. And in the '16 plan, based
7 on '15, it was nine million for premature death, okay?

8 Now, with the Indirect Source Rule, they're using
9 like Rule 10 to 12 million, all right? A thousand times a
10 thousand is a million. A thousand times -- a million
11 times a thousand is a billion. So that's \$10 billion per
12 thousand deaths. The State says there's 7,500 that's for
13 air pollution, 5,000 in the South Coast, okay?

14 The real numbers, okay -- Lancet in '18, we got
15 this from Pedro Piqueras, a doctor for the South Coast
16 specializing in health air pollution law. They said
17 there's 1.1 to 1.5 million premature deaths in the United
18 States per year.

19 A million times a million --

20 BOARD CLERK ESTABROOK: Twenty second remaining.

21 HARVEY EDER: -- is a trillion. Okay. That's
22 from 10 to 15 trillion for the U.S. cost. Ten percent of
23 that goes here. That's the whole economy of the State
24 basically. That's a half to two-thirds of the economy
25 just using those numbers without -- we got -- we got 85

1 percent in schools of kids that have asthma. They don't
2 get paid when they don't go to school.

3 BOARD CLERK ESTABROOK: Thank you. That
4 concludes your time.

5 HARVEY EDER: All this other -- these costs are
6 real --

7 BOARD CLERK ESTABROOK: Thank you.

8 Next will be William Smith. You may unmute and
9 begin.

10 WILLIAM SMITH: Good morning. Can you -- am I
11 being heard?

12 BOARD CLERK ESTABROOK: Yes, you are.

13 **3444** WILLIAM SMITH: Okay. Good morning. My name is
14 William Smith. I am the owner of the CPV vessel Riptide
15 in have Half Moon Bay. And I have just, just finished
16 repowering to a Tier 3 motor. And I support the SAC and
17 the GGFA position on this. I want to be allowed to
18 operate and maximize my use of this engine. My vessel was
19 small and I am -- would be unable to put the converter in
20 here. So my position is that I would like you to support
21 the position of both the GGFA and the SAC coalition.

22 Thank you.

23 BOARD CLERK ESTABROOK: Thank you. Our next
24 speaker will be Tim French. And then I'll just read off
25 the list of the last speakers for this item. Tim French

1 and then Harry Simpson, Josh Gaylord, Scott Hedderich,
2 Greg Hurner, and Ryan Mack.

3 Tim, you can unmute and begin.

4 **3445** TIM FRENCH: Good morning. Thank you. My name
5 is Tim French and I'm speaking on behalf of the Truck and
6 Engine Manufacturers Association. And EMA would like to
7 reiterate five points.

8 First and foremost, while EMA fully supports the
9 deployment of the most advanced propulsion systems that
10 are commercially available, we still have a number of
11 significant concerns regarding staff's proposal,
12 especially given the very short lead time before the
13 proposed amendments would take effect, which can occur as
14 early as next year.

15 Second, manufacturers currently produce very
16 clean SCR-equipped Tier 4 commercial marine engines in a
17 broad range of power and displacement categories.
18 However, the types of Tier 4 Plus engines that the amended
19 regulations would mandate are not commercially available
20 across the regulated power range nor are sufficient
21 verified Level 3 DPF retrofits.

22 Third, instead of trying to compel the deployment
23 of unavailable hybrid Tier 4 Plus systems, CARB should
24 work to foster the accelerated installation of available
25 Tier 4 systems. Those Tier 4 products could include

1 engine families certified at emission levels compliant
2 with the Euro 5 stage -- excuse me, the Euro Stage 5
3 standards. And significantly, Euro Stage 5 systems are
4 equipped the DPFs.

5 Fourth, CARB should fully coordinate any final
6 CHC amendments with the U.S. Coast Guard. Without that
7 full coordination and without accounting for the new
8 burdens on vessel owners to obtain additional Coast Guard
9 approvals, this rulemaking will face many significant
10 obstacles.

11 And fifth and finally, all aspects of the
12 proposed amendments will require a preemption waiver from
13 U.S. EPA before CARB attempts to enforce them. Given the
14 demonstrated lead time and cost effectiveness concerns at
15 issue, a preemption waiver should not be viewed as a
16 foregone conclusion in this case.

17 Thank you for the opportunity to testify today.

18 BOARD CLERK ESTABROOK: Thank you.

19 Next is Harry Simpson. You may unmute and begin?

20 HARRY SIMPSON: Hi. My -- can you hear me?

21 BOARD CLERK ESTABROOK: Yes, we can.

22 **3446** HARRY SIMPSON: I'd like to thank Chair Randolph,
23 and the members of the Board, and CARB staff for the
24 opportunity to comment on the proposed Commercial Harbor
25 Craft Regulations. My company, Crimson Renewable Energy,

1 is the largest producer of biodiesel in California.

2 For nearly a decade, we have produced
3 consistently over 50 percent of the biodiesel produced in
4 California, specifically we produce ultra low carbon
5 biodiesel from -- produced from 50 -- sorry, produced from
6 used cooking oil and other inedible waste an byproduct raw
7 materials. We play a significant role in helping
8 California and our customers decarbonize challenging
9 transportation emission sectors, such as heavy-duty
10 trucking, rail, agriculture and construction equipment.

11 Crimson and the biodiesel industry can play a
12 similar role in the marine sector to decarbonize and
13 reduce harmful particulate matter and hydrocarbon
14 emissions associated with marine fuels. As members of the
15 California Advanced Biofuels Alliance and the Clean Fuels
16 Alliance of America, we wish to align ourselves with the
17 comments they have submitted as well as comments submitted
18 by the Renewable Energy Group.

19 In particular, the proposal unnecessarily limits
20 biodiesel content in marine diesel fuels and prevents 100
21 percent renewable alternative marine fuel blends such a
22 the renewable diesel, 80 percent biodiesel, 20 percent
23 blend from being used in the marketplace for marine fuels

24 For the communities hardest hit by negative help
25 impacts associated with diesel fuel in California's ports

1 and harbors, this means those communities will be deprived
2 of the reductions in harmful PM and hydrocarbon emissions
3 that can be delivered by biodiesel fuel blends.

4 Additionally, we are disappointed by the tone
5 taken towards biodiesel within Appendix E of the proposed
6 amendments to the regulations, especially in light of the
7 fact that Air Resources Board has approved biodiesel for
8 in-state use in California for over a decade and we have
9 seen (inaudible)--

10 BOARD CLERK ESTABROOK: Thank you. That
11 concludes your time.

12 HARRY SIMPSON: -- four billion gallons of
13 biodiesel in California.

14 BOARD CLERK ESTABROOK: Thank you. Next will be
15 Josh Gaylord. You may unmute and begin.

16 **3447** JOSH GAYLORD: Good morning. I'm Josh Gaylord
17 with Flagship Cruises here in San Diego. We operate a
18 harbor tours, whale watching, and ferries on the bay
19 serving as an affordable access point to our bay for the
20 community.

21 As Californians are experiencing higher gas
22 prices through the nation, we need to keep alternative and
23 less polluting per capita transportation methods
24 affordable.

25 The Governor has announced providing free public

1 transportation for three months to help commuter
2 ferries -- or -- are an important component of the public
3 transportation system and critical to reducing the
4 traffic, and congestion, and emissions from our roadways.

5 These are roadways that transect our most
6 vulnerable communities and are demonstrated by the
7 greatest pollution burden on these communities. We are
8 more than willing to continue to invest in lowering
9 emissions for our ferries, but the technology must be
10 available. It must include State funding to maintain the
11 affordability that will incentivize consumers to abandon
12 their cars. And most importantly, we need to be -- we
13 need a reasonable time frame to work with shipyards and
14 technology providers to construct and deploy new systems
15 as they become available.

16 We carry about 800,000 passengers a year that
17 would normally drive the six miles through the community
18 we are trying to protect. We feel that this isn't really
19 considered in the carbon impact. We have up -- repowered
20 to Tier 3 and reduced speed to minimize our impact on the
21 environment. Tier 3 has also removed us from some of the
22 grant opportunity, which kind of works backwards on the
23 whole thing we're trying to achieve here with lower
24 emissions.

25 We've engaged an engineering firm to look at the

1 zero emissions opportunities. And so far, it's not
2 feasible for us to maintain our service and feasibility as
3 an affordable alternative to driving across the bridge and
4 driving through these communities.

5 BOARD CLERK ESTABROOK: Thank you. That
6 concludes your.

7 Our next speaker is Scott Hedderich. Scott, you
8 may unmute and begin.

9 **3448** SCOTT HEDDERICH: Good morning. Good morning,
10 Chair Randolph and members of the Board. My name is Scott
11 Hedderich. Appreciate staff trying to spell it or
12 pronounce it. I'm with the Renewable Energy Group, a
13 leading manufacturer of renewable and biodiesel in the
14 U.S. I do want to make sure that we associate our
15 comments those of CABA, CFA, and the other in-state
16 biodiesel manufacturers.

17 I want to talk about something very specific that
18 hasn't been mentioned, except I think by one of the last
19 speakers around Appendix E and that's explain why the
20 proposed language addressing biodiesel in Appendix E
21 should be removed, excuse me, from the rule, or failing
22 that should be thoroughly edited and rewritten to reflect
23 valid factual information and evidence. Many of the
24 claims made about biodiesel in that section are simply
25 wrong. They're based on antiquated studies dating from

1 2006 to 2012, and they are no longer relevant nor accurate
2 in light of new data.

3 For example one statement in the ISOR reads,
4 "Biodiesel, which is a methyl ester compound that should
5 not be used in high quantities with retrofit
6 aftertreatment". We've simply found no evidence to
7 support this claim whatsoever that biodiesel cannot be
8 used in high quantities with aftertreatment devices.
9 We've been using B20 in NTDEs on road for a significant
10 amount of time, and no it's not a problem.

11 CARB's own finding in the 2015 ISOR for the ADF
12 determined that engines that meet the latest emission
13 standards through the use of selective catalytic reduction
14 have been shown to have no significant difference in NOx
15 emission based on the fuel used. And it should be pointed
16 out that that study included testing 100 percent
17 biodiesel.

18 It's disappointing that CARB would choose to
19 present such misleading and inaccurate information on a
20 fuel that's approved for in-State usage, has had over 1.4
21 billion gallons consumed, and has delivered 12.3 million
22 credits of carbon reduction in the LCFS. We again ask
23 that this section be deleted, short of that working with
24 industry to ensure that it at least reflects current data
25 and not data that's 12 to 15 years old.

1 Thank you.

2 BOARD CLERK ESTABROOK: Thank you.

3 Greg Hurner, you can unmute and begin.

4 **3449** GREG HURNER: Thank you.

5 Thank you, Chair Randolph and members. Again, I
6 want to reiterate from the sportfishing communities, your
7 thanks for your comments at the November meeting.
8 Additionally, Chair Randolph, I want to thank you for your
9 personal involvement and the involvement of the
10 legislative staff and your advisors that were -- that
11 engaged with us, and also definitely want to thank Richard
12 and Edie, Heather, Bonnie, and David for their engagement
13 with us and their professionalism.

14 Dr. Balmes made a statement in November that
15 really struck me, and that was about the impacts from the
16 rule and the effects that it can have on those that are
17 subject to the rule. And we need to consider those
18 impacts. That's part of the non-monetary impacts that
19 we've discussed with your staff and with you, and we
20 really appreciate the engagement in that regard, and think
21 we have found a very good path.

22 We are very interested in working with the engine
23 manufacturers through the technology review to find out
24 what they can bring to the table. We know there's future
25 promises. We also know that there are zero-emission

1 technologies out there that are coming forward and we look
2 forward to working with the Pacific Environment and the
3 Coalition for Clean Air on helping the transition of all
4 harbor craft.

5 And lastly, I just want to thank the bipartisan
6 groups, some of legislators, some of those that the Chair
7 mentioned at the beginning of the meeting. This has been
8 a collaborative and productive effort. And it's truly
9 appreciated, and we look forward to continuing to engage
10 in the future.

11 Thank you.

12 BOARD CLERK ESTABROOK: Thank you.

13 Next will be Ryan Mack. And after Ryan, Beau
14 Biller, I saw that your hand went back you, that it was up
15 earlier, and you're able to speak now.

16 So, Ryan, you may unmute and begin.

17 RYAN MACK: Is it still morning?

18 Hello, everybody. Can you hear me?

19 BOARD CLERK ESTABROOK: Yes, we can.

20 **3450** RYAN MACK: All right. Hello and good morning.
21 My name is Ryan Mack. I'm the founder and owner of MP
22 Strategic group. It is a think tank comprised of Cal
23 Maritime grads from different disciplines such as marine
24 transportation and engineering, as well as policy. Myself
25 and my colleagues love maritime policy and hope to one day

1 develop better maritime policy for the mariner.

2 I was proud and excited to see a Cal Maritime
3 feasibility study cited in the commercial harbor craft
4 methodology for the rulemaking. However, the Cal Maritime
5 study clearly states that Tier 4 plus DPF is only
6 attainable on the largest newest tugs.

7 Considering -- I'm going to repeat this from Max
8 Cohen's point, but considering the vertical stability
9 issues for towing vessels that are raise in the very same
10 CMA study, which is used to justify the regulations,
11 towing vessels in subchapter (m), according to 46 CFR 170
12 will be put out of compliance for the regulation. It
13 specifically states that it is not meant to put vessels
14 out of compliance with CFRs, but it may, in fact, be doing
15 so.

16 It would be naive of me to think that the CHC
17 Regulation will be overturned. But moving forward, I
18 employ CARB staff to work with the United States Coast
19 Guard on vessel stability, safety, and heat with these new
20 DPF systems. Recently, there was a fire on board the Miss
21 Dorothy, a tug located on the Mississippi River. The
22 cause of that fire, according to the NTSB was due to
23 diesel spray on an exposed exhaust manifold. While this
24 vessel did not have a DPV or SCR, addition a heat on the
25 exhaust manifold will raise the likelihood of a fire on

1 board these vessels.

2 And I would just like to conclude and say that I
3 have a -- I have a unique responsibility as a mariner to
4 protect my fellow mariners in ensuring that vessel
5 stability, safety, and reliability is paramount. So thank
6 you so much for your time.

7 BOARD CLERK ESTABROOK: Thank you.

8 Beau Biller, you can unmute and begin.

9 Beau, are you there?

10 It doesn't look like you're unmuted.

11 Okay. Sorry, Beau. We're not able to hear you.
12 You can please submit your written comments on the
13 website. We're unable to -- it looks like you're not
14 unmuted on your end. Sorry about that.

15 Chair, that concludes the commenters.

16 CHAIR RANDOLPH: Thank you. Staff, are there any
17 issues raised in the comments that you want to address?

18 EXECUTIVE OFFICER COREY: Nothing to add, Chair.

19 CHAIR RANDOLPH: Okay. Thank you.

20 EXECUTIVE OFFICER COREY: Excuse me. There's a
21 comment that legal wants to make.

22 BOARD CLERK ESTABROOK: Alex Wang, are you on?

23 SENIOR ATTORNEY WANG: Sorry. Hello. Sorry.

24 Yeah. This is Alex Wang. I'm a staff attorney assisting
25 staff on this rulemaking item.

1 Chair Randolph and members of the Board, nearly
2 all of the comments provided today do raise issues that
3 had been previously submitted and considered by staff.
4 Specifically in regards to environmental comments
5 received, we have already provided you with comprehensive
6 responses to those comments, in a response to comments on
7 the Draft Environmental Analysis, which include comments
8 submitted again today. Staff has not identified any new
9 significant -- sorry, staff has not identified any new
10 significant information in the comments today that have
11 not already been addressed.

12 Staff would, however, like to provide an
13 additional response to the comment letter submitted today
14 from the Clean Fuels Alliance America and California
15 Advanced Biofuels Alliance. While that letter does not
16 identify a significant environmental effect, the
17 regulation, it states that the responses we provided to
18 comments 3196-1 and 3196-2 in the response to comments
19 document appear to have been based on misconceptions and
20 misunderstandings regarding the R99 proposal.
21 Specifically, the letter states that the proposed R99
22 requirement would result in fewer particulate matter
23 emission reductions versus the renewable 80 and biodiesel
24 20 fuel blend.

25 Staff believes that the responses provided for

1 comments 3196-1 and 3196-2 in the Final Environmental
2 Analysis response to comments document reflects the most
3 recent information and accurately reflects the reductions
4 of particulate matter, NOx, and life-cycle greenhouse gas
5 benefits that would have been achieved by the proposal to
6 require use of R99 or higher blends of renewable diesel.

7 We're aware that there may be some PM reductions
8 from R80/B20 blend compared to R99 or greater, but those
9 potential benefits must be weighed against the potential
10 relative NOx increases from the biodiesel and the blends,
11 in addition to other performance concerns. And those
12 concerns are responded to in comments 3235-4 in the Final
13 Environmental Analysis response to comments document.

14 There is no other diesel fuel blend than R99 or
15 higher that provides a greater amount of NOx reductions,
16 and, as outlined in our staff presentation, there is a
17 shortfall on the NOx reductions needed to meet the goals
18 of the State SIP Strategy. Comments regarding PM
19 reduction benefits from use of B80/B20 do not -- do not
20 indicate that a significant environmental effect would be
21 caused by the proposed regulation.

22 In addition to achieving less NOx reductions, use
23 of blends of biodiesel by more than five percent would not
24 comply with the standards for CARB diesel, according to
25 ASTM D-975. The proposed amendments require use of

1 verified diesel emission control strategies verified
2 pursuant to 13 California Code of Regulations 2700 to 2711
3 et seq., which requires additional analysis and testing
4 for use of alternative diesel fuels, such as biodiesel.

5 The use of biodiesel could also conflict with
6 requirements of vessels that travel internationally or
7 into international waters, such as the MARPOL Annex VI
8 regulation 18 requirements, that require testing to ensure
9 no increases in NOx emissions.

10 All right. Thank you.

11 CHAIR RANDOLPH: Thank you. I will now close the
12 record on this agenda item. Any written or oral comments
13 received after this hearing date will not be accepted as
14 part of the official record on this agenda item.

15 If the Executive Director -- I'm sorry, if the
16 Executive Officer determines that additional conforming
17 modifications are appropriate, the record will be reopened
18 and a 15-day Notice of Public Availability will be issued.
19 If the record is reopened for a 15-day comment period, the
20 public may submit written comments on the proposed changes
21 which will be considered and responded to in the Final
22 Statement of Reasons for the regulation. The Executive
23 Officer may present the conforming modifications to the
24 Board for further considerations if warranted, and if not,
25 the Executive Officer shall approve or disapprove such

1 modifications and take final action to adopt the
2 regulation after addressing all conforming modifications.

3 All right. Ready to bring this to the Board. If
4 any Board member has a question or comment please raise
5 your hand if in person or click the raise hand symbol, if
6 you are on Zoom.

7 I'm going to kick off with a question. And this
8 seems to me, you know, kind of the most key issue in this
9 process. So I wanted to kind of set it out at the
10 beginning. And I think the commenter Shawn Bennett
11 articulated it best with kind of the fundamental questions
12 about technological feasibility and safety. You know, he
13 mentioned issues around power stability, and safety, and
14 other concerns related to DPFs. And so I thought it would
15 be important for staff to sort of discuss with the Board
16 kind of the process and safety considerations that go into
17 the approval of engines and DPFs. So if staff could
18 respond to that, that would be --

19 EXECUTIVE OFFICER COREY: Yes. David Quiros will
20 respond, Chair.

21 TTD FREIGHT TECHNOLOGY SECTION MANAGER QUIROS:

22 Well, thank you, Chair Randolph and members of
23 the Board. Safety is a top priority for us as an air
24 quality agency when we're requiring the use of
25 technologies like Tier 4 engines and diesel particulate

1 filters. We've worked with other bodies like the U.S.
2 Coast Guard a number of times, and we're going to continue
3 to work with them as we go into the implementation of this
4 rule, if approved.

5 One thing to keep in mind is that there are DPFs
6 that are certified by the United States Environmental
7 Protection Agency for marine use to the Tier 3 standards
8 that have DPFs on them, and those have been certified
9 since 2017.

10 On CARB's role of that, we verify the aftermarket
11 DPFs through a rigorous procedure that you heard about
12 today from Rypos and Nett Technologies called the
13 verification process. And through that process, in
14 addition to verifying levels of emissions reductions of
15 diesel PM of 85 percent or more, we also require the
16 applicants to demonstrate the potential safety and failure
17 modes associated with their strategies, and what
18 mitigation measures that they're supposed to be using to
19 make sure that those DPFs are safe.

20 So CARB would not verify something with a known
21 performance issue with a DPF. In our recent conversations
22 with the Coast Guard, we've also learned that they too are
23 asking at the local level what type of safety measures are
24 in place on these marine DPFs as they're beginning to be
25 tested and verified for use in the rule.

1 So one such project that Nett Technologies is
2 involved with the S. Bass tug that's operating down in San
3 Diego. And that is currently undergoing verification, and
4 the Coast Guard is being looped in, and it could be
5 potentially a technology that would be used to comply with
6 this rule.

7 CHAIR RANDOLPH: Okay. Thank you.

8 All right. Any other Board members would like to
9 comment or ask questions?

10 Vice Chair Berg.

11 VICE CHAIR BERG: Thank you. And thank you staff
12 and everybody who have been stakeholders that have been
13 participating in this regulation. It is complicated.
14 There are many duty cycles that we are addressing here and
15 it's a long established industry. And so we know that
16 when we go to the next steps, that that does make industry
17 very nervous. What we also know that is the benefits are
18 overwhelming and we know that we need to be forward.

19 I thought it would be helpful if staff could
20 clarify a couple of things. One, we heard time and time
21 again about technology not being available specifically in
22 the Tier 4 area and DPFs. I think -- and yet in staff's
23 presentation, they did mention that 22 engines were
24 available. So if we could just have a little clarity on
25 the availability of technology, and if technology is not

1 available, what's -- what's the process. I think that
2 would be extremely helpful.

3 The other thing is the simplification of
4 extensions. It did seem that I thought I didn't realize
5 the cost of the \$54,000 for the needed documentation for a
6 small company. That is very extensive. If you have one,
7 two, three vessels that's a lot of money. So I'd be very
8 interested in how the simplification has -- is going to
9 impact positively on this process.

10 And then I think my last clarification truly is
11 to address we have very short time frames. This is an
12 aggressive rule and we have very short time frames, so
13 there is going to be some barriers. There's going to be
14 things backing up. This is a lot of engineering. This is
15 a lot of preparation to retrofit, or to put new engines,
16 or to get new vessels. And so what's going to be the
17 process when things do get backed up for these companies?

18 And then finally, I'd really appreciate to hear
19 from staff this issue of useful life. I have to say that
20 I am sympathetic to the useful life issue. We're
21 asking -- if we only started from now and the amount of
22 investment, but people have been making investments to get
23 to Tier 3s and Tier 4s. And so how are you thinking about
24 that, especially in light of going to zero, which we know
25 is our ultimate goal. So I would appreciate some thought

1 about that.

2 Thank you so much.

3 EXECUTIVE OFFICER COREY: David Quiros is going
4 to take this as well. David.

5 TTD FREIGHT TECHNOLOGY SECTION MANAGER QUIROS:

6 Thank you, Vice Chair Berg. This is David
7 Quiros. I captured four questions that you raised to
8 staff. Let me touch on them in order here.

9 The first one was on Tier 4 engine availability
10 and DPF availability. We did have in our staff report, we
11 said in the staff presentation, that there are 22 models
12 of Tier 4 engines that are available. That would be
13 certified by U.S. EPA for marine use today. Not all of
14 those will fit in the in-use vessels that are operating in
15 California today. And there might be some combinations of
16 duty cycle ratings or engine power sizes, where there just
17 isn't a Tier 4 engine certified.

18 So built into the regulation and the proposal in
19 November, there's an extension pathway that would allow
20 operators to get extensions, two years at a time, and
21 there would be no limit to the number of two-year
22 extensions, if technology is just not certified.

23 The separate question is whether it fits in the
24 vessel, and that's the feasibility extensions that we've
25 heard a lot about in the staff presentation that are

1 limited to six years for most vessels and eight years for
2 passenger vessels with earlier compliance deadlines.

3 On the DPF side, there are some OEM engines,
4 engines made by engine manufacturers that are certified by
5 U.S. EPA with DPFs today. Those are in the Tier 3 class.
6 There are no Level 3 DPFs that could be used with Tier 4
7 engines today, but we heard from two retrofit
8 manufacturers and one engine manufacturer that is
9 certifying or verifying engines that would meet the Tier 4
10 plus DPF standard.

11 Similarly, if there's no DPFs available by a
12 compliance deadline, that's not a feasibility question,
13 that's an availability question. And there's no limit to
14 the number of two-year extensions that would be available
15 to the operators that would need to comply.

16 The second question you asked was about the
17 simplification of the compliance extension process. The
18 CMA report, after reevaluating the direction in November,
19 can be used by some vessel categories to satisfy the
20 third-party Naval architect analysis. An initial idea
21 that we have is for the first of the two -- the first two
22 years of the six to eight year total of feasibility
23 extensions, that that report would be able to satisfy the
24 technical basis if a vessel is made out of wood or
25 fiberglass. We might be able to use that CMA report in

1 broader context, but at a minimum, we should be able to
2 use it for the wood and fiberglass vessels.

3 The third issue that was raised was the
4 short-term time frames for compliance. So in the first
5 five years of the regulation being implemented, 2024
6 through 2029, vessels were the highest emissions have
7 compliance dates. Tugs, for example, have high activity,
8 large engines, and directly pollute near-shore
9 communities. Ferries are in that category. They have a
10 direct passenger impact. That's why they have early
11 compliance deadlines.

12 The compliance dates can be extended due to the
13 extensions either availability or feasibility. And if the
14 feasibility extensions are granted in full, that could
15 mean that vessels don't have to take action to reduce
16 their emissions until 2030.

17 So that leads to the fourth topic you raised
18 about the useful life. We heard requests about useful
19 life of up to 25 years and we don't doubt that a lot of
20 the operators take good care of their engines, have good
21 maintenance practices, and that engines can last that
22 long. With the compliance dates that are proposed in --
23 back in November, most engines will have at least 10 to 15
24 years before they have to turn over to something new. And
25 we recognize that those engines might have been able to be

1 operated longer, but we do need to achieve reductions,
2 especially as there's a need to reduce diesel emissions
3 and then also the promise of zero-emission technology on
4 the horizon.

5 And the last thing that I'll say is that every
6 year where there's an opportunity to reduce cleaner
7 combustion emissions by 90 percent, it would take 10 years
8 of zero-emission operation to make it up.

9 So we can't wait for zero to be here for the
10 majority of the harbor craft that are operating where
11 there's an opportunity to achieve the public health
12 protections that we need today.

13 Thank you.

14 VICE CHAIR BERG: Thank you, David. My follow-up
15 question is is that given that it is a shorter useful
16 life, that was taken in consideration for the cost
17 analysis? So did you use a 10 or 15 year life in the cost
18 analysis?

19 TTD FREIGHT TECHNOLOGY SECTION MANAGER QUIROS:

20 The useful life that was assumed in the emissions
21 was also carried forward into the cost analysis. And in
22 many cases, if there was remaining useful life, that's an
23 asset to the company, because they can sell or trade that
24 asset outside of the state. And in many cases, due to the
25 current Harbor Craft Regulation, our engines are equal to

1 or cleaner than what other states or outside jurisdictions
2 of California are using.

3 VICE CHAIR BERG: So do I understand that to be
4 no?

5 TTD FREIGHT TECHNOLOGY SECTION MANAGER QUIROS:
6 We did use the cost -- the useful life of the
7 engines into the consideration, yes.

8 VICE CHAIR BERG: Okay. And then may I ask one
9 more question. And I'm not sure it will be of David, but
10 I was intrigued by the -- the speaker that talked about
11 Humboldt Port and the fact that they were in a compliant
12 area. Sounds like a small port operation. Could someone
13 make a comment on that?

14 TTD FREIGHT TECHNOLOGY SECTION MANAGER QUIROS:
15 This is David Quiros, I can start responding to
16 that. One thing is that we --

17 VICE CHAIR BERG: Thank you, David.

18 TTD FREIGHT TECHNOLOGY SECTION MANAGER QUIROS:
19 -- recognize is harbor craft do operate across
20 the state. In some cases, certain vessels are dedicated
21 to one region. But we do really need a statewide rule,
22 because even if a region achieves the National Ambient Air
23 Quality Standards, that doesn't mean that the emissions
24 don't adversely impact the communities of where those
25 vessels operate. So in order to assure that vessels that

1 operate across the state provide public health
2 protections, we have a statewide rule.

3 VICE CHAIR BERG: Thank you very much.

4 CHAIR RANDOLPH: Board Member Hurt.

5 BOARD MEMBER HURT: Thank you. I'd like to thank
6 the staff for the additional outreach and all the work on
7 the regulation since November. I'd like to thank all the
8 public commenters and just the variety of stakeholders
9 that I have met with between now and this Board meeting.

10 Everyone who requested a meeting, I made time.
11 And so I want to thank all of you for sharing how this
12 regulation impacts your businesses and your families. And
13 to Graham Balch of Green Yachts, I've never met you
14 before, but I'm happy to meet with you. So please reach
15 out. It would be much appreciated to learn more about
16 your business around electric yachts.

17 I do understand how unsettling some of this may
18 feel for some of the folks that have to have great change
19 in their business, and in this industry, and that there
20 are some unknowns around technology feasibility and
21 availability, but I'm reminded of how we are one community
22 and where everyone must move through the necessary change
23 to really meet this unprecedented need to reverse the
24 negative effects of climate change and improve the air
25 quality, especially in highly impacted communities. And

1 so I believe this edited or amended resolution is really
2 threading the needle with many of the stakeholders, and
3 they are diverse in their needs.

4 With that said, I, too, continue to be concerned,
5 especially in the wake of the pandemic, for small
6 businesses boat owners. And I'm concerned about the
7 implementation process and ensuring that we continue these
8 businesses forward, that in some cases have been around
9 for generations.

10 But we also must not forget the negative impact
11 to public health that happens every day we wait in making
12 changes, especially in highly impacted communities.

13 I think of communities near Oakland and LA ports
14 that have bore the burden of everyone's consumption for
15 decades. They, too, have families, and businesses, and
16 generations living under dire conditions. And I note, and
17 I'm very thankful staff showed the cancer risk, while it's
18 still not eliminated with these regulations, there is
19 great improvement in those communities. So this is why we
20 must move forward with this regulation with the
21 appropriate guardrails. I've heard loud and clear that
22 technology for some boat types are in flux or not
23 available, and others just really have grave concerns
24 around funding and implementation.

25 My ask of the Board and staff is not just a

1 technical feasibility, but also an implementation review
2 of how this regulation is progressing, how the
3 case-by-case extensions are going. It is BAAQMD's
4 experience today and in the past that it takes months to
5 get sign-off on a case-by-case extension, even in clear
6 cases.

7 I did ask in my briefing, you know, are we going
8 to increase the budget, are we going to have staff to
9 really meet the need? And I understand that that's in
10 process. But we need to get this right, so that this
11 regulation really serves our end goals.

12 I also would like for us to assess the industry
13 pace of ship builders and retrofiters. The ability of
14 small boat owners to get in those necessary queues to get
15 the retrofits in new boats I think is absolutely essential
16 and cannot be lost in this process. I think about the Bar
17 Pilots of San Francisco that have a 24/7 business that
18 requires that they're moving, and operating, and guiding
19 freight movement in the Bay. If there's limited pilot
20 service, ocean-going vessels will not be able to come to
21 shore and plug up, and they will idle in the bay around
22 communities again highly impacted, which brings me to
23 funding.

24 Around the grant funding, I understand that the
25 deadlines and the surplus agreement under Carl Moyer grant

1 prevents funding -- or rather is not an option for many
2 folks to rely on as it's currently situated. I understand
3 that we are the regulators and we should do our best to
4 shape our funding programs, however, to meet the needs, so
5 that it's a successful regulation. I urge staff to find
6 solutions around that, whether it's a shortening of the
7 surplus years from three to two, or maybe extending that
8 option. And maybe the IPAG group can take a look at how
9 that's affecting the harbor craft folks.

10 I've also heard that there's folks lobbying the
11 Capitol for more funding. And so this data around
12 implementation, as well as technology feasibility I think
13 will be beneficial. So if we could add those, again the
14 implementation review I think it will helpful in the
15 freight ask.

16 So with that said, I truly appreciate and support
17 the compliance schedule and the extensions with financial
18 hardship and feasibility at the front, equity centered, is
19 really going to important for me when we talk about the
20 streamlining of those extensions. I said in the last
21 meeting that those who receive funding from Carl Moyer
22 should be able to maximize those efforts with appropriate
23 extensions. And I want to continue to keep that raised up
24 as an important element in this regulation moving forward.

25 And so just again, if we could, in addition to

1 the technical feasibility biannual review add an
2 implementation review.

3 But I'm ready to move forward. I know it's going
4 to be a difficult reg, but I think it's important.

5 Thank you.

6 CHAIR RANDOLPH: Thank you. Board Member De La
7 Torre.

8 BOARD MEMBER DE LA TORRE: Thank you. I want to
9 thank staff as well. This, you know, two-part hearing
10 process a lot has gone on, a lot leading up to the initial
11 hearing and then obviously there's been more meetings,
12 more discussions with industry. And we hear the concern.
13 It's a big leap for many of you.

14 I am supportive of the adjustment being proposed
15 for the fishing fleets. Those boats are unique. They're
16 small. They're light. They -- you know, they're just
17 different. And so I'm very supportive of getting the
18 immediate air quality improvements that we can get and
19 work with you going forward.

20 I also am very supportive of the mid-term review
21 on the technological viability. That's very important. I
22 know you don't see us do this all the time, but I want --
23 I want to be clear. We -- when we do a mid-term review,
24 it is a thorough, real mid-term review. So that isn't
25 just a talking point here. We're going to do it. It will

1 be thorough. And if we identify things that are missing
2 at the time, technologically, we -- we'll adjust. And we
3 do that regularly here. So I want to -- I want to assure
4 you that that is a real and significant commitment on the
5 part of the Air Resources Board.

6 The extensions that are being proffered here with
7 across the Board, very unusual. We -- when we do a
8 extensions, they're normally, one-offs that we allow the
9 Executive Officer to determine. In this case, it is a --
10 an across-the-board extension offer at the -- when the
11 time comes, when your dates come up for your particular
12 vessels, and that is extremely unusual for us.

13 Yes, we -- I share Vice Chair Berg's concern in
14 terms of the timing of it and Board Member Hurt's concerns
15 about being able to process these. But the fact that
16 we're doing an across-the-board extension is extremely
17 unusual for us, and I think a sign that staff and the
18 Board recognizes that you -- that we are taking this big
19 leap, and, you know, we want to be as flexible as we can.

20 Finally, on the dollars for -- and this is
21 particularly for the Catalina Ferry. I am -- I've said
22 this before. I'll say it again. I'm very sympathetic to
23 the issue of Catalina. I have not been able to find
24 another scheduled ferry to an island offshore of
25 California. There are charters, but it is -- to my

1 understanding, it is the only sched -- regularly scheduled
2 ferry service to an island offshore in California.

3 It is the lifeline to that island for the people
4 who live there and then obviously for the tourists who go
5 back and forth. I've been there many times. It is part
6 of, you know, being in Southern California, or being in
7 California at all. So very, very important that that
8 lifeline is maintained.

9 I have spoken to Senator Allen and Assembly
10 Member O'Donnell about this. They have committed to work
11 with us on finding the funding to help the Catalina ferry
12 make this transition.

13 So we've talked about various ways it can be
14 done. You know, it's the legislative process which I know
15 all too well can -- it is -- it is the sausage making that
16 everyone hears about all the time, but there's a few
17 months here to really shape what that proposal looks like
18 and gets some resources particularly to scheduled ferry
19 service to offshore islands in California.

20 So that's it in terms of my comments. I do have
21 a question on the articulated barge, because I heard this
22 a few times in different meetings, that there was a
23 difference in definition between California and the
24 federal government on articulated barges, whether or not
25 they're harbor craft or ocean-going vessels. So I'd like

1 an answer to that question. But I am supportive of the
2 measure today for all the reasons I said.

3 Thank you.

4 TTD FREIGHT TECHNOLOGY SECTION MANAGER QUIROS:

5 This is David Quiros. I'll respond to your
6 question, Board Member De La Torre. California, CARB in
7 particular, has regulated ATB tugs since 2009 as harbor
8 craft and the U.S. Coast Guard also classifies ATB tugs as
9 harbor craft as subchapter (m) towing vessels.

10 BOARD MEMBER DE LA TORRE: Thank you.

11 CHAIR RANDOLPH: Okay. Thank you.

12 Board Member Takvorian.

13 BOARD MEMBER TAKVORIAN: Thank you, Chair. I
14 just wanted to add that I do support the measure as
15 proposed. And I appreciate the collaborative work of CARB
16 staff and particularly the Sportfishing Association and
17 industry, which seems to have created a pathway that's
18 feasible.

19 I understand the concerns that have been raised
20 and I appreciate the addition of the mid-term review,
21 which I hope will respond to many of the questions that
22 have been raised about technology. I do want to
23 emphasize -- we've been focusing a lot on feasibility, and
24 a bit on economics, but I want to emphasize that the
25 reduction of the cancer risk from these vessels and

1 improvement in the air quality and health is really
2 significant and especially in environmental justice port
3 and coastal communities from Oakland to San Diego. It's
4 quite significant.

5 In San Diego, these vessels are a significant
6 emissions source and they are included in the 617 program
7 CERP. And it accounts for over half of the diesel
8 particulate matter from off-road sources and 47 percent of
9 the NOx. And the emissions from these vessels represent
10 about 28 percent of the cancer risk to portside
11 communities -- to the portside community of Barrio Logan.
12 And I just wanted to be really clear about the exposure
13 for those of you who may not have seen this in -- in
14 different portside communities, but in San Diego. And we
15 appreciate that CARB staff were able to come and visit and
16 see the exposures for themselves. The tug maintenance
17 yard in Barrio Logan is located right next to the only
18 pier on San Diego Bay that's accessible to Barrio Logan
19 and right next to the only bayside park, where students
20 from the neighborhood elementary school recreate, because
21 there's no playground at the school. So they walk over a
22 railroad track and through heavy-duty trucks that are
23 barreling down the streets in order to get to this park,
24 because they have nowhere to play at the school.

25 I was there last week and saw U.S. Navy members

1 using the park for exercise as well. So make no mistake,
2 there's quite a bit of exposure. The park is well used
3 and we're very hopeful that the tugboats can transition to
4 zero emissions sooner than we're currently anticipating.
5 And again, that's why the mid-year -- mid-term review is
6 quite important and we're -- we're very inspired by the
7 pilot demonstration of zero-emission tugboat in San Diego
8 and the ferry in San Francisco. So we look forward to
9 hearing the results of those pilots.

10 So again the mid-term review is very good marker
11 to -- to really indicate what the transition can be and I
12 appreciate the addition of that measure.

13 Thank you.

14 CHAIR RANDOLPH: Thank you.

15 Supervisor Vargas.

16 BOARD MEMBER VARGAS: Thank you. Thank you,
17 Chair Randolph. And I just wanted to add to some of
18 Member Takvorian's comments. First and foremost, I want
19 to thank you for -- you know, as the representative of our
20 San Diego portside community, I want to say thank you to
21 all the staff for all the work up and to this point, and
22 coming to San Diego and to visit the sportfishing fleet,
23 which really compromises small ownerships and family
24 businesses. And I think it was really important that this
25 rule really made sure that for the AB 617 communities had

1 additional considerations, and that the engagement that
2 took place.

3 As it was mentioned, our San Diego portside EJ
4 community is the second category of higher pollution
5 sources impacting Barrio Logan, National City. And so
6 this support -- this directly is going to support several
7 of -- several of our CERP strategies and actions. And so
8 the MOU that we have with CARB, our APCD staff is actually
9 ready to assist fleets. And then we'll be planning
10 outreach activities to harbor craft business as well. So
11 I really appreciate the inclusion of our technical working
12 group for the biennial review. I think it's extremely
13 important.

14 So again, I want to just thank CARB staff, my
15 colleague, Supervisor Fletcher, who spoke earlier today as
16 well for all of his engagement, and the Portside Community
17 steering committee for the work in the CERP. I know it's
18 tough, but I think this rule allows us enough time to
19 transition the fleets. And I'm supportive of the staff's
20 recommendation as well, so thank you.

21 CHAIR RANDOLPH: Thank you.

22 Dr. Balmes.

23 BOARD MEMBER BALMES: Thank you, Chair Randolph.

24 And, you know, going kind of late in the queue of
25 Board members, much of what I would say has already been

1 said and said well. I particularly want to highlight
2 Supervisor Hurt's comments. You know, she stole the line
3 that I was going to use, that staff, with the revised
4 proposal, has thread the needle.

5 You know, there's a tension, which I remarked
6 about and others did in November between trying to
7 maintain small business -- businesses that are impacted by
8 this regulation and the public health benefits that are so
9 important to portside communities.

10 And I think staff has done a good job in
11 threading that needle. I -- I appreciate Supervisor
12 Vargas for mentioning the technical working group. You
13 know, I think the mid-term review is very important, but
14 the biennial technical working group -- I may have the
15 biennial wrong, but the technical working group where
16 staff and affected industry stakeholders will be working
17 together I think is real -- is key and we really need to
18 make sure that that functions well.

19 I also appreciate Supervisor Hurt saying that in
20 addition to the mid-term review on technical matters,
21 there should be implementation review as well. You know,
22 I think that probably is what staff is proposing, but the
23 implementation part is important to include the
24 barriers -- economic barriers, as well as the technical
25 barriers to getting cleaner vessels that move us towards

1 zero-emission ultimately.

2 And I just want to take this opportunity to
3 praise Executive Officer Corey for his role in threading
4 the needle here. I realize that there's a whole team
5 effort here from Chair Randolph to staff. But since I
6 won't be able to attend the April Board meeting, I want to
7 say thank you for Mr. Corey's effort on this regulation
8 and the many regulations and policies that I have worked
9 with him on over the years. If this is your last hurrah,
10 Richard, it's a good one.

11 Thank you.

12 CHAIR RANDOLPH: Thank you.

13 Board Member Kracov.

14 BOARD MEMBER KRACOV: Yes. Thank you, Chair
15 Randolph. Coming here at the very end obviously want to
16 thank staff for working so hard for so many years, and
17 particularly the last few months in coming up with a more
18 consensus based rule. You know, kudos to the staff for
19 sure on this, just a great job all the way.

20 And, you know, support the comments of all my
21 fellow Board members today. And do also want to highlight
22 Counsel Member Hurt's -- I'll call you Supervisor Hurt
23 too, is that okay? Give you the promotion that Dr. Balmes
24 gave you, but Supervisor Hurt's highlighting of the role
25 of the technological assessments, both in terms of the

1 technology and where it's going, as well as the
2 implementation. I think Mr. De La Torre raised that as
3 well.

4 And, you know, I come from South Coast Air
5 District. I've heard a lot from the different
6 stakeholders. All these different categories of vessels,
7 you know, are in the South Coast District. So it's
8 important being the rep from the District to hear from
9 these stakeholders and ensure that the rule and how it's
10 implemented is done in a fair way to industry, and, of
11 course, all the folks that have to breathe the emissions
12 from these vessels.

13 But I have, you know, heard from some in the
14 industry, particularly the ferries and the tugs. So I
15 wanted to ask a question about that, Mr. Executive
16 Officer. You know, we've made this move now with the
17 sport fishers to Tier 3 with the technological assessment.
18 And we see where we go with that.

19 We have not made that revision or proposed it for
20 the ferries or for the tugs. And I spoken to folks like
21 Greg Bombard at Catalina, who, you know, is very concerned
22 about the costs of this rule on his, you know, really
23 critical fleets as Mr. De La Torre mentioned.

24 So I think it's very important that we explain
25 the reasoning on this. So let me just ask the question,

1 and then I'll have some other comments, please, Chair.
2 But for Mr. Corey, and, of course, you can defer that to
3 Mr. Quiros or whoever else ably can describe this in staff
4 in hopefully a detailed and persuasive way. But why are
5 the other categories, particularly the ferries and the
6 tugs and those kind of boats, not being given the same
7 Tier 3 plus treatment as the sport fishers? If we could
8 explain that to the stakeholders today in a persuasive
9 way, in a thoughtful way, I'd really appreciate it.

10 EXECUTIVE OFFICER COREY: Thanks, Board Member
11 Kracov. David Quiros will take this question as well.

12 TTD FREIGHT TECHNOLOGY SECTION MANAGER QUIROS:

13 This is David Quiros. Thank you Board Member
14 Kracov. That's a really good question as to why the
15 sportfishing vessel flexibility couldn't be offered to the
16 other sectors. And the stars just really happened to
17 align to provide this opportunity to provide early
18 reductions for the sportfishing sector that overall would
19 not increase emissions over our valuation period.

20 One thing to keep in mind is that the
21 sportfishing vessels do not have compliance requirements
22 to upgrade engines under the current Harbor Craft
23 Regulation, which means that there's still a decent
24 fraction of them that are Tier 1 or pre-Tier 1 or
25 so-called Tier 0 engine operated. A lot of the

1 sportfishing vessels have upgraded to Tier 2 or 3, but
2 there were enough of them that also had feasibility
3 concerns as demonstrated by our Cal Maritime feasibility
4 study, because that fleet is mostly all fiberglass and
5 wood construction. We assumed that 99 percent of them,
6 that would have to go to Tier 4 plus DPF would have to be
7 replaced based on current engine technology.

8 That's not the case with the excursion vessels,
9 with the ferries, with the tugboats. Feasibility is a lot
10 better. They also don't happen to be operated by
11 predominantly a small business industry, and they are
12 mostly Tier 2 or Tier 3 now, which minimizes the
13 opportunity to upgrade to Tier 3 and achieve early
14 reductions that could give a little more time to
15 transition to that Tier 4 plus DPF by 2035.

16 The final thing I'll say is that the other vessel
17 categories still do have the extension process where they
18 can get to six to eight years of extra time, if they can
19 demonstrate technical and financial infeasibility.

20 BOARD MEMBER KRACOV: Okay. So thank you for
21 that Mr. Quiros. And, you know, I think it's important
22 that the stakeholders and industry, you know, sort of hear
23 this as the justification for why we're moving in this
24 direction. We do have the compliance extensions. We do
25 have the technological assessment that's going to give us

1 a sense. And, you know, there might be reasons to revisit
2 this rule after the technological assessment is done in a
3 few years.

4 But the other key thing, and I know Mr. De La
5 Torre focused on this too as well as others, is the
6 funding. Now, I don't have all the relationships he does
7 to, you know, be speaking with Senator Allen and
8 Assemblyman O'Donnell, but I do know that, you know, all
9 of us have a role in trying to assure that the funding for
10 these sectors is available to the fullest extent possible.

11 For example, Moyer, you know I know that Moyer
12 dollars are apportioned among the districts and that, you
13 know, how the different sectors get that apportionment
14 also is a decision that's up to the districts themselves.
15 So you have committed to those folks in my Air District,
16 you know, that I personally, you know, want to have a
17 relationship with you. With the folks that we've just
18 met, this is the start of a relationship, but I'll be
19 following up, you know, with you and with District staff
20 to see if there are opportunities to increase the funding,
21 you know, dedicated for the marine sector.

22 And, you know, I guess this is a question for
23 Executive Officer Corey, you know, as a Board member, you
24 know, in addition to that, you know, whether there are
25 things that we can do, either internally at the agency or

1 externally with legislative leadership, you know, options
2 for directing additional incentive funds to this category.

3 It seems like we're going to pass this rule
4 today. Folks are going to have some time, but we know
5 there's constraints. So Executive Officer Corey, what do
6 you think, you know, we as Board members can do to try to
7 help get the incentive dollars to this sector as we're
8 encouraging this very significant transition?

9 EXECUTIVE OFFICER COREY: Yes. Thanks, Board
10 Member Kracov. That's a perfect question. And given the
11 timing as a budget is put together, State budget, and
12 ultimately refined over the next several months, sharing
13 your perspective with legislative leadership, as well as
14 the Administration would be incredibly helpful at this
15 point in terms of the opportunities and need for
16 incentives to pull forward the application of cleaner
17 technologies and get reductions even earlier. That would
18 be incredibly helpful over the coming weeks and months as
19 the budget is refined and ultimately acted on and -- at
20 the end of June.

21 BOARD MEMBER KRACOV: So we have our work cut out
22 for us and thank you for allowing me to ask those
23 questions, Chair.

24 CHAIR RANDOLPH: All right. Thank you.

25 Seeing no other comments, the Board has before

1 them Resolution number 22-6. Do I have a motion and a
2 second?

3 BOARD MEMBER DE LA TORRE: So moved, De La Torre.

4 BOARD MEMBER BALMES: Second, Balmes.

5 BOARD MEMBER HURT: Second, Hurt.

6 CHAIR RANDOLPH: Okay. I think Board Member Hurt
7 managed to slide the second in right before Dr. Balmes.

8 So, Clerk, would you please call the roll.

9 BOARD CLERK ESTABROOK: Dr. Balmes?

10 BOARD MEMBER BALMES: Yes.

11 BOARD CLERK ESTABROOK: Mr. De La Torre?

12 BOARD MEMBER DE LA TORRE: Yes.

13 BOARD CLERK ESTABROOK: Mr. Eisenhut?

14 BOARD MEMBER EISENHUT: Yes.

15 BOARD CLERK ESTABROOK: Senator Florez?

16 BOARD MEMBER FLOREZ: Florez, aye.

17 BOARD CLERK ESTABROOK: Ms. Hurt?

18 BOARD MEMBER HURT: Aye.

19 BOARD CLERK ESTABROOK: Mr. Kracov?

20 BOARD MEMBER KRACOV: Yes.

21 BOARD CLERK ESTABROOK: Dr. Pacheco-Werner?

22 BOARD MEMBER PACHECO-WERNER: Yes.

23 BOARD CLERK ESTABROOK: Mrs. Riordan?

24 BOARD MEMBER RIORDAN: Aye.

25 BOARD CLERK ESTABROOK: Supervisor Serna?

1 BOARD MEMBER SERNA: Aye.

2 BOARD CLERK ESTABROOK: Professor Sperling?

3 BOARD MEMBER SPERLING: Aye.

4 BOARD CLERK ESTABROOK: Ms. Takvorian?

5 BOARD MEMBER TAKVORIAN: Aye.

6 BOARD CLERK ESTABROOK: Supervisor Vargas?

7 BOARD MEMBER VARGAS: Vargas, aye.

8 BOARD CLERK ESTABROOK: Vice Chair Berg?

9 VICE CHAIR BERG: Aye.

10 BOARD CLERK ESTABROOK: Chair Randolph?

11 CHAIR RANDOLPH: Yes.

12 BOARD CLERK ESTABROOK: Madam Chair, the motion
13 passes.

14 CHAIR RANDOLPH: All right. Thank you very much.

15 Okay. It is about 12:30 and we will take a
16 45-minute lunch break, and we will be back at 1:15 for our
17 next agenda item.

18 Thank you.

19 (Off record: 12:28 p.m.)

20 (Thereupon a lunch break was taken.)

21

22

23

24

25

1 neutrality no later than 2045.

2 Since the Legislature passed the California
3 Global Warming Solution Act in 2006, there have been three
4 Scoping Plans approved by the Board. The first plan
5 outlined actions to return to 1990 emissions levels by
6 2020, a task at the time seemed impossible without a heavy
7 economic toll, but one that was ultimately achieved ahead
8 of schedule during unprecedented economic stability.

9 Nevertheless, the climate impacts predicted prior
10 to the adoption of the first Scoping Plan are being
11 realized in California and beyond. The 2021 report by the
12 Intergovernmental Panel on Climate Change, or IPCC, tells
13 us that we must achieve global carbon neutrality by
14 mid-century to avoid the worst impacts of climate change.
15 This means in California and globally, we must achieve
16 deep decarbonization across all sectors of the economy by
17 2045 requiring that we escalate our mitigation measures in
18 the near term.

19 The modeling presented today includes four
20 scenarios where fossil fuel dependence is eliminated or
21 drastically reduced. A future that phases out fossil fuel
22 combustion will also deliver the critical air quality
23 benefits needed to address ongoing air pollution
24 disparities for our communities of color and low-income
25 households. This transformation away from fossil fuel

1 combustion will come with a high cost. Significant
2 investments today are critical knowing that the payback
3 will be in future decades in the form of avoided higher
4 damages from climate change.

5 Moreover, as we move away from combustion of
6 fossil fuels, we must also continue to cut short-lived
7 climate pollutants, or SLCPs, like methane and
8 hydrofluorocarbons. We need to ensure success in reducing
9 fossil fuel emissions isn't hampered by emissions of these
10 super pollutants. And the modeling you will see today
11 shows how many of the SLCPs persist, even if we phase out
12 all fossil fuel combustion.

13 The framework for carbon neutrality also
14 highlights the role of natural and working lands, a
15 critical yet underutilized sector, and other mechanical
16 carbon dioxide removal technologies will play in balancing
17 out any emissions remaining in the system. The natural
18 and working lands modeling presented today, is a
19 first-of-its-kind effort to estimate and quantify the role
20 of natural and working lands as part of our toolkit for
21 addressing climate change.

22 The time to double down on our efforts is now.
23 For communities disproportionately burdened by the impacts
24 of climate change, there is no more time left. In line
25 with statutory direction, this Scoping Plan update is

1 going to set a cost effective and technologically feasible
2 path to continue our progress towards our 2030 goals and
3 carbon neutrality no later than 2045 that can attract
4 partners and be exported to other regions.

5 This plan will incorporate the final
6 recommendations from the Environmental Justice Advisory
7 Committee to the extent possible to ensure that all
8 Californians, including low-income communities and
9 communities of color, who continue to be on the front
10 lines of experiencing the negative impacts of climate
11 change are not left behind.

12 This plan needs to integrate environmental
13 justice and racial equity, while including strategies to
14 protect those most vulnerable from any negative impacts.
15 For this to happen, dialogue and partnerships with the
16 Environmental Justice Advisory Committee and communities
17 of across California is critical.

18 It will also take international action and strong
19 interstate and jurisdictional partnerships to solve this
20 global threat. As such, building on the partnerships we
21 have cultivated across the country and the globe will
22 continue to be a priority for me and this agency. As has
23 been the case historically, the benefits of this plan will
24 be broader than just climate change. Its implementation
25 will also help improve public health by reducing the

1 emissions burdens experienced by front-line communities.

2 Today's item is one of the several -- several
3 opportunities the Board, members of the Environmental
4 Justice Advisory Committee, and the public will have to
5 engage on this important effort.

6 Mr. Corey, would you please introduce this item.

7 EXECUTIVE OFFICER COREY: Yes. Thanks, Chair.

8 And as you noted, the 2022 Scoping Plan
9 represents the third update to the State's Climate
10 Strategy. This plan will assess how our progress towards
11 achieving our Senate Bill SB 32 2030 target and lay out a
12 technologically feasible and cost-effective path to carbon
13 neutrality no later than 2045.

14 The first draft of the Scoping Plan update will
15 be presented to the Board in June, but today, as you
16 noted, we have another opportunity that builds upon the
17 February Board hearing to hear from staff and the public
18 on the progress and considerations relevant to the plan.

19 The modeling presented today shows that we'll
20 need to double, triple, or even more our efforts to
21 develop clean technology and energy to achieve our 2030
22 and longer term targets.

23 The red flag warnings as noted from hundreds of
24 scientists in the IPCC report have told us we're out of
25 time. We cannot afford to let the perfect be the enemy of

1 the good and we must consider the science and role of
2 every tool available to us to start the transition away
3 from fossil fuels and start removing carbon from the
4 atmosphere. As such, carbon dioxide removal is included
5 in every scenario staff will present.

6 The 2022 Scoping Plan must address the scale of
7 the transition and will recommend technologically feasible
8 and cost effective tools to achieve carbon neutrality no
9 later than 2045 as noted. And for the first time, it will
10 layout the quantified role our gnat and working lands will
11 play in achieving that goal. In this update process,
12 staff will continue to work with the Environmental Justice
13 Advisory Committee and other stakeholders to provide
14 meaningful public engagement in support of the building an
15 actionable path to meet our greenhouse gas reduction
16 targets.

17 We have the tools and we know where we need to be
18 in the next 20 years. The Scoping Plan will outline the
19 path to get there. We must do it in a way that supports
20 our actions being exported elsewhere.

21 Over the course of the next month, staff will be
22 holding workshops on the economic and air quality modeling
23 for the scenarios being considered. I'll now ask Maureen
24 Hand of the Industrial Strategies Division to give the
25 staff presentation.

1 reality resulting in merely shifting emissions outside of
2 the California border. When production leaves the state,
3 not only does it shift emissions outside of California's
4 borders, but it can also result in a loss jobs and
5 economic activity in the state.

6 Finally, AB 32 requires that policies in the plan
7 are cost effective with flexible compliance options and it
8 directs CARB to facilitate subnational and national
9 collaboration. Climate change is a global issue and
10 without action from like-minded partners, we will still
11 face the impacts of climate change. For global
12 pollutants, such as greenhouse gases, a reduction anywhere
13 is a benefit everywhere.

14 Our goal has always been to develop scalable and
15 exportable programs that other jurisdictions can implement
16 and use to reduce emissions within their borders. That is
17 one of our biggest contributions to addressing this global
18 threat.

19 --o0o--

20 ISD AIR RESOURCES ENGINEER HAND: As mentioned,
21 direction on Scoping Plan goals and objectives are
22 informed by statute and Executive Orders. Each Scoping
23 Plan is a high level actionable plan that spans across all
24 sectors. This is the step we are discussing today. After
25 each Scoping Plan is adopted, CARB and other State

1 workshops and Environmental Justice Advisory Committee
2 meetings. We have conducted 12 public workshops including
3 a three-day kick-off series with sector-focused
4 discussions for modeling scenario workshops, and topical
5 workshops covering natural and working lands, engineered
6 carbon removal, short-lived climate pollutants,
7 electricity, building decarbonization, and public health.

8 We have received many written comments that we
9 used to design both AB 32 sources scenarios and natural
10 and working lands scenarios. We received comments from EJ
11 organizations, industry representatives, individuals,
12 topical experts, and other affected stakeholders. We
13 received written comments from the EJ Advisory Committee
14 for the AB 22 source scenarios and we have explained how
15 these comments were incorporated in the scenario inputs.

16 In addition, conversations with the EJ Advisory
17 Committee Working Group for Natural and Working Lands
18 informed those scenarios. Last week, on March 15th, we
19 held a public workshop to present the modeling results
20 based on these scenario design inputs.

21 --o0o--

22 ISD AIR RESOURCES ENGINEER HAND: The overlay of
23 carbon neutrality in our long-term climate planning means
24 we need to redefine our scope of sources and sinks in that
25 framework in the 2022 Scoping Plan. Carbon neutrality is

1 achieved when emissions sources equal sinks. Up until
2 now, every Scoping Plan has focused on reducing emissions
3 from fossil energy and industrial-focused sources defined
4 in the AB 32 inventory.

5 As we shift to the framework of carbon
6 neutrality, we have expanded the scope to include all
7 sources, which means emissions from the natural and
8 working lands and all sinks.

9 The circle shown on this slide represents
10 California's greenhouse gas emissions from AB 32 inventory
11 sources, which we continue to ratchet down through air
12 quality and climate policy. Carbon capture and
13 sequestration can also be applied to large emitters of
14 carbon dioxide to mitigate emissions.

15 Natural and working lands can be a net GHG source
16 or sink, as indicated by the plus and minus signs. The
17 state's separate natural and working lands inventory
18 allows us to track the GHG emissions and sequestration on
19 natural and working lands over time.

20 Beyond nature-based solutions, there are
21 technological carbon dioxide removal options, such as
22 direct air capture of CO2 coupled with permanent
23 underground storage of CO2 that can remove emissions from
24 the ambient air.

25 Once we have a sense of GHG emission mitigation

1 from our sources and the potential role of our natural and
2 working lands, we can begin to think about how to
3 compensate for any remaining emissions in order to reach
4 carbon neutrality. The initial modeling results I'm
5 presenting today were first shown at a public workshop
6 last week. There may be slight adjustments to these
7 results in the Draft Scoping Plan.

8 First, I'll present the AB 32 sources scenarios
9 followed by the natural and working lands scenarios.

10 --o0o--

11 ISD AIR RESOURCES ENGINEER HAND: In addition to
12 a reference, or business-as-usual scenario, we modeled
13 four draft energy and technology scenarios. Two of the
14 scenarios achieve carbon neutrality by 2035 and two by
15 2045.

16 Alternative 1 nearly phases out fossil and
17 biomass combustion completely across the economy. This
18 alternative includes limited engineered carbon removal to
19 achieve carbon neutrality by 2035. This alternative
20 includes ambitious innovation in electric technology and
21 aggressive consumer adoption trends.

22 Alternative 2 implements a full suite of
23 technology options, including engineered carbon removal at
24 a rapid pace, in order to reduce emissions as much as
25 possible and achieve carbon neutrality by 2035.

1 Alternative 3 uses a broad portfolio of existing
2 and emerging fossil fuel alternatives and includes
3 achievement of Executive Order N-79-20, eliminating
4 internal combustion engines throughout the transportation
5 sector as much as possible.

6 Alternative 4 relies on existing and some
7 emerging technologies with slower deployment and consumer
8 acceptance rates. It reflects a higher reliance on carbon
9 dioxide capture and removal technologies to achieve carbon
10 neutrality by 2045 then alternative three.

11 --o0o--

12 ISD AIR RESOURCES ENGINEER HAND: Transitioning
13 or economy away from fossil fuels is truly a
14 transformation of our energy system, and this is evident
15 in all four alternatives. Electrification is a
16 cornerstone of each alternative. The speed at which we
17 need to expand zero carbon electricity capacity is
18 unprecedented. For example, building the necessary solar
19 capacity estimated for each alternative exceeds our recent
20 annual installation rate of 2.7 gigawatts. Similarly, the
21 battery capacity additions needed each year greatly
22 exceeds the historic rate of 0.3 gigawatts.

23 All of the alternatives include a transition from
24 gasoline or diesel-powered vehicles to zero-emission
25 vehicles over time. Because Alternative 1 eliminates

1 combustion by 2035, this means that millions of vehicles
2 will need to be retired early. For example, 16 million
3 light-duty vehicles and 1.4 million medium- and heavy-duty
4 vehicles would be removed from California's roads by 2035.

5 For context, the U.S. Cash for Clunkers Program
6 implemented a few years ago cost \$3 billion and retired
7 690,000 vehicles. Early vehicle retirement is largely
8 avoided in the other alternatives by allowing an
9 end-of-life transition, but it -- this extends the need
10 for liquid petroleum fuel.

11 Similarly, eliminating combustion in homes by
12 2035 in Alternative 1 requires early retirement of
13 millions of gas appliances to be replaced with electric
14 appliances. Again, Alternatives 2, 3, and 4 retain
15 natural gas supply to allow this transition to electric
16 appliances to occur as the gas appliances reach their end
17 of life.

18 In addition to the electricity -- or in addition
19 to electricity, hydrogen becomes a primary alternative
20 fuel for the transportation sector. The quantity of
21 hydrogen needed in each of the alternatives to supply
22 California's projected demand is significant and it will
23 also need to be provided by low-carbon sources.

24 One approach to creating hydrogen involves
25 electrolysis. If all of the hydrogen needed in each

1 alternative was produced with solar-powered electrolysis,
2 we would need an additional 31 to 47 gigawatts of solar
3 capacity. This level of solar-powered electrolysis
4 represents about 40 to 50 percent of our current electric
5 generation capacity.

6 The need for petroleum refining in California
7 declines as fewer and fewer internal combustion engine
8 vehicles remain. As I mentioned, all ICE vehicles are
9 retired by 2035 in Alternative 1, therefore refining
10 operations cease.

11 Alternative 2 accelerates ZEV adoption equally
12 fast without early retirements of vehicles resulting in 25
13 percent of today's refining capacity remaining in 2035 and
14 eight percent remaining in 2045.

15 Alternative 4 has the slowest ZEV adoption rate,
16 and therefore retains the most refining capacity of the
17 four alternatives.

18 To reduce remaining combustion emissions in each
19 alternative, we apply carbon capture and sequestration
20 technology to high temperature industrial operations like
21 cement and to refineries. In Alternative 1, industrial
22 combustion emissions captured with CCS are less than one
23 million metric ton per year. In the other alternatives,
24 CCS is applied to refineries along with some industrial
25 plants. The quantity of CCS needed is related to the

1 quantity of refining capacity remaining. CCS related to
2 dispatchable power for grid reliance and for producing
3 renewable hydrogen with biogas is not included in this
4 slide.

5 Finally, after all of the direct emissions
6 reductions we envision for the four alternatives, there
7 are residual emissions. Even Alternative 1, which nearly
8 eliminates combustion of fossil fuels, still has residual
9 non-combustion emissions like methane. The quantity of
10 residual emissions in each scenario is related to the pace
11 at which fossil fuels are shifted to alternative energy
12 sources.

13 In Alternative 1, the transition to ZEVs and
14 electric appliances is aggressive, but it's not complete
15 in 2035. To reach carbon neutrality would require over a
16 hundred million metric tons of carbon removal from the
17 atmosphere. Because Alternative 3 and 4 target carbon
18 neutrality by 2045, there are no residual emissions to
19 compensate in 2035, but residual emissions remain in 2045.
20 Moreover, if we did not pursue CCS on the large emitters,
21 more carbon dioxide removal would be needed to capture
22 those emissions from the ambient air.

23 --o0o--

24 ISD AIR RESOURCES ENGINEER HAND: Reliance on
25 fossil fuels is drastically reduced in all four

1 alternatives as shown in this traffic. The brown, blue,
2 and black colors reflect fossil fuel energy demand in 2020
3 on the left compared to each of the four alternatives in
4 2035 and 2045.

5 Alternative 1 nearly eliminates fossil fuel
6 energy demand in 2035 by phasing out combustion in
7 vehicles, homes, buildings, and most industrial
8 applications.

9 Alternatives 2, 3, and 4 allow the transition
10 away from fossil fuels to occur at a pace based on
11 end-of-life replacement of equipment or phased
12 transition -- transition to alternative fuels.

13 Hydrogen, biofuels, and biomethane use grows to
14 provide energy for hard-to-decarbonize sectors like
15 aviation and high temperature industrial processes.
16 Electricity, which is not shown on this figure, becomes
17 the primary energy source. And reducing fossil fuel
18 supply of electricity is a key aspect of each alternative.

19 The next slides show how this transition away
20 from fossil fuels is completed in each -- is accomplished
21 in each sector.

22 --o0o--

23 ISD AIR RESOURCES ENGINEER HAND: Liquid
24 petroleum fuels, gasoline and diesel shown in brown, are
25 the primary source of energy for transportation today.

1 Each of the alternatives ramps up sales of zero-emission
2 vehicles that rely on electricity and hydrogen, shown in
3 light blue and pink, and expand reliance on biofuels to
4 reduce demand for petroleum.

5 The overall energy demand for transportation is
6 reduced in the near term, along with reductions in vehicle
7 miles traveled, or VMT. Efficiency gains from electric
8 drivetrains, compared to internal combustion engines, also
9 contribute to lower overall energy demands.

10 Alternative 1 phases out combustion in 2035 with
11 early retirement to millions of internal combustion engine
12 vehicles, such that only ZEVs are on the road.

13 Alternatives 2, 3, and 4 replace vehicles at end of life
14 resulting in continued dependence on liquid petroleum
15 fuels or biofuels as the transition proceeds.

16 The year in which 100 percent of vehicle sales
17 are ZEVs dictates the pace of the transition and the level
18 of remaining petroleum demand in 2045. Reaching 100
19 percent ZEV sales earlier results in less demand for
20 petroleum later.

21 The fossil fuel combustion reductions included in
22 all of these alternatives will significantly reduce the
23 concentration of combustion-associated air pollutants
24 throughout the state. For example, Alternative 3 achieves
25 the Governor's Executive Order to eliminate internal

1 number of ZEVs relative to the BAU reference. The BAU
2 reference reflects a case where no additional policies or
3 incentives accelerate the ZEV adoption.

4 The Governor's Executive Order for 100 percent
5 sales of ZEVs by 2035, in the green line for Alternative
6 3, leads to 11 million ZEVs by 2035. This means that
7 there will still be millions of light-duty vehicles that
8 depend on gasoline in 2035.

9 --o0o--

10 ISD AIR RESOURCES ENGINEER HAND: Most of the
11 gasoline and diesel consumed by vehicles in California is
12 refined in California, and California produces a
13 substantial portion of the fuel refined in the State. The
14 demand for petroleum fuel is directly related to the
15 number of vehicles that continue to rely on gasoline and
16 diesel. As the number of ZEVs increase, the demand for
17 petroleum and the associated greenhouse gas emissions
18 decrease.

19 With the phaseout of combustion by 2035 in
20 Alternative 1, emissions from oil and gas extraction and
21 from petroleum refining drop to zero.

22 For the other alternatives, extraction emissions
23 decline over time as the demand for petroleum fuel drops
24 and the number of ZEVs grows. Alternative 3 includes a
25 planned phaseout of extraction operations by 2045. The

1 portion of crude oil needed to meet remaining demand in
2 2045 would need to be imported.

3 Refining GHG emissions also decline over time,
4 along with decreased demand for petroleum fuel for
5 Alternatives 2, 3, and 4, as shown in the dotted lines in
6 the figure on the right. The addition of carbon capture
7 and sequestration technologies to refining operations by
8 2030 substantially reduces refining emissions in the near
9 term as shown in the solid lines.

10 Emissions continue to decrease after CCS
11 installation as refining production tracks the reduced
12 demand for petroleum. If we decouple petroleum production
13 from demand and ratchet down on the supply more
14 aggressively, we would need to import petroleum to meet
15 in-state demand. This situation would be leakage for the
16 sector.

17 --o0o--

18 ISD AIR RESOURCES ENGINEER HAND: Fossil fuels
19 used in California's industrial sector are primarily
20 natural gas and other fossil gases used in refining
21 operations. Each of the alternatives represents a
22 transition of industrial operations to equipment powered
23 by electricity, hydrogen, or biofuels to reduce demand for
24 natural gas. Blending hydrogen and biomethane into the
25 pipeline -- pipeline, also displaces fossil natural gas.

1 The overall energy demand for industrial
2 activities is reduced primarily as refining operations
3 decrease, but efficiency gains from electrification and
4 operational improvements also contribute to reduced energy
5 demand.

6 Electricity is a suitable alternative for
7 industrial processes that require low-temperature heat,
8 but it may be a more expensive or technically challenging
9 alternative to provide medium and high temperatures for
10 industries like cement, steel, and glass.

11 Hydrogen combustion, through dedicated pipelines
12 to serve industrial clusters and blended into the pipeline
13 with natural gas, can provide higher temperature heat
14 where on-site combustion may be needed. All four
15 alternatives assume that CCS is used to capture combustion
16 emissions from cement plants that continue to rely on
17 fossil fuel sources.

18 The pace at which industrial applications are
19 transitioned to electricity or to equipment designed for
20 hydrogen combustion varies across each alternative.
21 Alternative 1 relies almost completely on electricity to
22 meet industrial energy needs to reduce combustion.

23 Alternatives 2, 3, and 4 achieve different levels
24 of electrification and conversion to equipment for
25 hydrogen combustion to reduce reliance on natural gas.

1 Alternative 4 retains the most legacy equipment that uses
2 natural gas.

3 --o0o--

4 ISD AIR RESOURCES ENGINEER HAND: Natural gas is
5 also the primary fossil fuel used for space and water
6 heating, cooking, and clothes drying in our homes and
7 businesses. Each of the alternatives ramps up sales of
8 electric appliances to reduce demand for natural gas.
9 Blending hydrogen and biomethane in the pipeline also
10 displaces natural gas consumption in buildings.

11 Across all alternatives, overall energy demand is
12 reduced with efficiency gains from electric heat pumps and
13 traditional energy efficiency measures. Phasing out
14 combustion by 2035 in Alternative 1 leads to early
15 retirement of millions of gas appliances. Alternative 2,
16 3, and 4 replace appliances at end of life resulting in
17 continued dependence on natural gas as the transition
18 proceeds. By 2045, about 90 percent of the building
19 energy demand is electrified in Alternatives, 2, 3 and 4.

20 --o0o--

21 ISD AIR RESOURCES ENGINEER HAND: Electricity is
22 the primary alternative to fossil fuels currently used in
23 transportation buildings and many industrial activities.
24 While California has actively reduced dependence on fossil
25 fuel for electricity generation over the past decade.

1 Fossil fuels, primarily natural gas, still supply about 45
2 percent of electricity generation serving California.

3 Electricity sector modeling for the Scoping Plan
4 alternative aligned with previous work done by E3, CARB,
5 and the State's energy agencies under SB 100. SB 100 aims
6 to achieve 60 percent renewable electricity generation by
7 2030 and 100 percent renewable and zero carbon retail
8 sales by 2045, which will be accomplished by installing
9 record levels of solar and wind generation each year.

10 Even with this increase in renewable generation,
11 reliability concerns require some amount of electricity
12 generation that can be cycled on and off as needed from
13 gas generation. Alternative 1 nearly eliminates
14 combustion in electricity production through reliance on
15 hydrogen fuel cells combined with renewable electricity
16 generation. Electric loads increase about 80 percent
17 relative to today to accommodate the sharp increase in
18 demand to supply the ZEVs, electric appliances, and
19 industrial demand.

20 Alterantives 2, 3, and 4 include a broader range
21 of technology options to produce zero carbon electricity
22 to meet retail sales while meeting system constraints.
23 Load growth is slower in these alternatives, but it still
24 increases 60 to 80 percent relative to today by 2045.
25 It's important to note that additional electricity

1 generation beyond what is shown here is likely needed to
2 produce hydrogen or support direct air capture of carbon
3 dioxide.

4 --o0o--

5 ISD AIR RESOURCES ENGINEER HAND: Greenhouse gas
6 emissions don't only originate with combustion of fossil
7 fuel. Methane, hydrofluorocarbons, or HFCs, and other
8 greenhouse gases contribute to climate change. These
9 non-combustion emissions are particularly challenging to
10 reduce, and in many cases cannot be eliminated.

11 Methane emissions are reduced in line with the SB
12 1383 target by 2030 in all four alternatives with
13 continued reductions through 2045. The four alternatives
14 employed different strategies to arrive at the same level
15 of methane reduction by 2030. Organic waste, shown in
16 green, is diverted from landfills and converted to fuel at
17 the same level in all scenarios.

18 Fugitive emissions from oil and gas operations
19 and pipelines are essentially eliminated in Alternative 1
20 as the gas grid is retired and oil and gas extraction
21 phase out. In Alternatives 2 and 3, additional reductions
22 exceed those anticipated by the current oil and gas
23 regulation.

24 Methane emissions from dairy and livestock
25 operations are addressed with different strategies in each

1 alternative, balancing energy production from methane
2 captured, manure management, enteric emissions, and herd
3 size reductions in excess of historic levels. Alternative
4 1 emphasizes manure management, herd size reduction rates,
5 and enteric emission mitigation, while Alternative 2
6 relies most heavily on methane captured for energy
7 production.

8 There is an opportunity to introduce low global
9 warming potential refrigerants as building retrofits and
10 newly constructed buildings transition to electric
11 appliances, although this may have high costs.

12 --o0o--

13 ISD AIR RESOURCES ENGINEER HAND: The modeling
14 results show that even after we transition to alternative
15 fuels, there will be residual emissions in all four
16 alternatives. These emissions are primarily associated
17 with methane in the agriculture sector, combustion
18 emissions remaining in the electricity and industrial
19 sectors, transportation fuels to meet remaining demand
20 from internal combustion engine vehicles, and high global
21 warming potential HFCs.

22 In order to achieve carbon neutrality, these
23 residual emissions must be compensated, by carbon dioxide
24 removal from the atmosphere to get to zero emissions. To
25 be clear, we are modeling scenarios that first push on

1 clean fuels and technology and carbon dioxide removal is
2 second in that loading order. The extent to which we will
3 need CDR depends on how successful we are at building
4 clean energy production and infrastructure and how quickly
5 we deploy clean technology.

6 As noted earlier, there are two approaches to
7 carbon dioxide removal, nature-based solutions and
8 technological carbon dioxide removal. I will share the
9 results of our natural and working lands assessment of
10 carbon emissions and sequestration next. However, we do
11 find that both nature-based and technological carbon
12 dioxide approaches will be necessary for California to
13 achieve carbon neutrality no later than 2045.

14 --o0o--

15 ISD AIR RESOURCES ENGINEER HAND: Recognizing the
16 importance of the State's lands for our climate efforts,
17 Governor Newsom issued an Executive Order in October 2020
18 directing CARB to include a target for natural and working
19 lands in support of carbon neutrality as a part of this
20 Scoping Plan.

21 Natural and working lands has been a part of
22 California's Scoping Plan since the first one in 2008. At
23 that time, however, only forests were considered and only
24 one study was used to identify the five million metric ton
25 carbon sequestration rate goal.

1 The next Scoping Plan called for a more thorough
2 look at forest lands, which resulted in California's
3 forest carbon plan. The forest carbon plan did not set
4 any carbon targets, but it does provide a lot of valuable
5 information on actions and mechanisms that California can
6 use within forests.

7 The 2017 Scoping Plan update took the next step
8 towards developing a comprehensive natural and working
9 lands carbon target. After the 2017 Scoping Plan was
10 adopted, CARB, along with the California Department of
11 Food and Agriculture and the California Natural Resources
12 Agency, developed the draft Natural and Working Lands
13 Implementation Plan.

14 Through this effort, it was calculated that
15 California could reduce emissions from natural and working
16 lands by 15 to 20 million metrics tons of carbon -- of CO2
17 equivalent per year by 2030.

18 Now, as we look to achieving carbon neutrality no
19 later than 2045 and seek to better understand both the
20 potential emissions and emission reductions possible from
21 natural and working lands, we have undertaken the most
22 advanced modeling for natural and working lands to date.

23 This is really groundbreaking work and the first
24 time this level of assessment of natural and working lands
25 has been undertaken by any government for identifying

1 carbon targets and climate goals

2 --o0o--

3 ISD AIR RESOURCES ENGINEER HAND: Just as on the
4 industry and energy side, CARB staff have modeled a
5 business-as-usual scenario, as well as four alternative
6 scenarios with different levels of climate action for
7 natural and working lands. In this case, climate action
8 refers to different levels of forest management and fuels
9 reduction, regenerative agricultural practices, urban tree
10 canopy expansion, and a whole host of other actions we can
11 take to address climate change.

12 These scenarios reflect the input we have
13 received from stakeholders and the public, as well as
14 working with our agency partners and span a wide range of
15 potential levels of action. Each scenario has an
16 overarching objective that informs the level of
17 management.

18 --o0o--

19 ISD AIR RESOURCES ENGINEER HAND: For this
20 assessment, we are trying to model every major carbon pool
21 and ecosystem in the state of California. This is a list
22 of the ecosystems that we were able to include in our
23 modeling and the models associated with that assessment.

24 No single model can simulate all of the dynamics
25 that we are interested in for all of the land types, and

1 so you can see that we used a wide assortment of different
2 models. This is because each ecosystem has very different
3 ecological, biological, and other dynamics that require
4 special consideration.

5 For each land type, we used these models to
6 simulate the effect of varying levels of climate action
7 that we identified in consideration of and consultation
8 with the public and our agency partners.

9 For forests, shrublands and grasslands for
10 example, we were particularly interested in being able to
11 quantify the GHG emissions from wildfire, and so we chose
12 a model that allows us to estimate potential fire
13 emissions on these landscapes. We also wanted to
14 understand how various levels of management would impact
15 fire emissions, and so we ran scenarios with a range of
16 land management intensities.

17 We conducted a similar analysis across each
18 landscape assessing the carbon and GHG benefits of
19 different levels of management actions for wetlands, urban
20 forestry, croplands, and deserts.

21 --o0o--

22 ISD AIR RESOURCES ENGINEER HAND: Now, I will
23 show a few example results from our natural and working
24 lands modeling. Displayed are the results for the carbon
25 stock within annual cropland soil. This graph is of

1 carbon stock, not emissions. So a positive trend means
2 that more carbon is getting stored in soil.

3 For agriculture, for Scenario 1, we modeled the
4 impact of applying the maximum rate of healthy soils
5 practices physically possible as quantified by CDFA, as
6 well as achieving 30 percent of total agriculture in
7 annual croplands being organic by 2045.

8 Then the other scenarios have a tiered-down
9 approach to quantify the impacts of varying levels of
10 action. And to add some context, Scenario 1 represents a
11 10X increase in healthy soils practices from current
12 levels.

13 You can see here that in the business-as-usual
14 scenario, which includes no healthy soils practices,
15 annual croplands will be net emitters into the future.
16 However, our results indicate that with aggressive climate
17 action, these lands can sequester carbon over the long
18 run.

19 --o0o--

20 ISD AIR RESOURCES ENGINEER HAND: This slide
21 again represents annual croplands. However, this graph
22 shows emissions when N2O emissions are also taken into
23 account. In this graph, values below the zero line mean
24 increasing annual emissions. This graph shows that even
25 though in some scenarios annual croplands can sequester

1 well as modeling 1 million, 2.5 million, and 5 million
2 acres of management per year. For context, the State's
3 current policy objectives is to treat 1 million acres
4 annually.

5 Modeling results showed that under all scenarios,
6 forests will be net emitters into the future. However,
7 with increasing management and fuels reduction, we can
8 reduce our wildfire emissions while not substantially
9 impacting our carbon stock. Reducing wildfire emissions
10 in California will have significant benefits, particularly
11 in terms of air quality and health.

12 --o0o--

13 ISD AIR RESOURCES ENGINEER HAND: As part of the
14 Scoping Plan, CARB staff conducted a meta-analysis and
15 literature review to catalogue and quantify what previous
16 research has identified as the future of California's
17 natural and working lands carbon.

18 This graph shows the combined results from CARB's
19 Scoping Plan modeling laid on top of the results of this
20 meta-analysis and alongside the natural and working lands
21 inventory trend line. You can see that previous research
22 indicates a probable decrease of carbon stocks into the
23 future. The CARB natural and working lands carbon
24 inventory indicates that we are currently on the low end
25 of that trajectory. And CARB's Scoping Plan modeling just

1 presented is in line with previous research in indicating
2 a probable decrease in carbon stocks going into the
3 future. However, even though under all scenarios, natural
4 and working lands modeling indicates decreased carbon
5 stocks, management can increase carbon stocks from the BAU
6 trajectory, reduce GHG emissions from lands, and improve
7 ecosystem and public health.

8 We also know that uncertainty exists about future
9 climate and the impacts that it may have on our ecosystem,
10 so it is important that the State take decisive and
11 aggressive action to improve and diversify ecosystem
12 structures and management. Modeling and collaborative
13 work we have done with our sister agencies highlight the
14 importance of increasing the pace and scale of natural and
15 working land actions to ensure that our ecosystems are
16 equipped to withstand future climate change and that they
17 continue to provide the services that both nature and
18 society depend upon for survival.

19 --o0o--

20 ISD AIR RESOURCES ENGINEER HAND: As we go about
21 assessing the contribution of natural and working lands to
22 carbon neutrality, we must not only look at long-term
23 trends, but on short-term sequestration and emission
24 rates. This graph shows five-year moving averages at 2
25 different a time slices for each scenario for the lands

1 and actions we modeled. Additionally, this graph shows
2 the relative contribution of each land type to the overall
3 sequestration or emissions rate.

4 In this graph, negative values represent
5 emissions, while positive values represent sinks of
6 carbon. First, you can see that in 2035 our modeling
7 indicates an overall source of emissions for most
8 scenarios. While in 2045, all scenarios are sinks. This
9 demonstrates natural variability within the sector.

10 You can also see in this graph that forests play
11 the dominant role in determining the contribution that
12 natural and working lands can have on carbon neutrality,
13 followed by shrublands. This indicates the need for more
14 climate action in these lands especially to help us
15 achieve carbon neutrality over both the short and long
16 term.

17 There are also a number of landscapes and actions
18 for which the GHG benefits increase as we increase action.
19 The modeling shows that we can achieve more carbon
20 benefits and GHG reductions as we scale up wetland
21 restoration, healthy soils practices, organic farming,
22 urban forestry, and land protections.

23 It is important to remember, however, that carbon
24 is not the only aspect to consider when identifying how
25 well a scenario performs under climate change. So as you

1 Alternative fuels and technologies are available
2 today, but they are somewhat limited in number. It will
3 be important to keep clean energy options open.

4 On the natural and working lands side, our
5 assessment indicates that decisive and aggressive climate
6 action is needed to improve ecosystem climate resilience.
7 Improved ecosystem climate resilience protects ecosystems
8 against future climate change disruption, ensures their
9 provision of services to nature and society, and protects
10 communities from the negative impacts of climate change.

11 High levels of actions on forests can decrease
12 wildfire risks and improve forest health and our modeling
13 indicates that this can be accomplished without
14 substantially negatively impacting carbon stock.

15 Additionally, increasing actions on other lands
16 can improve carbon storage and reduce emissions from those
17 sectors. In some land types, emissions benefits from
18 climate action can occur faster than others. For example,
19 avoiding land conversion away from natural and working
20 systems can immediately preserve that carbon, reducing
21 fertilizer application, or restoring wetlands can have
22 immediate emissions reductions. However, other systems
23 require time for climate benefits to build upon
24 themselves, such as action within forests.

25 --o0o--

1 ISD AIR RESOURCES ENGINEER HAND: In the
2 following slides, I'll touch briefly on some of the work
3 the EJ Advisory Committee is doing to inform the Scoping
4 Plan. The Committee has been meeting twice a month and
5 will continue to contribute multi-day monthly efforts
6 through the end of the Scoping Plan process.

7 One joint meeting between the Committee and the
8 Board was held earlier this month to discuss the
9 Committee's draft recommendations, and another joint
10 meeting is schedule in September. The EJ Advisory
11 Committee will use their regular meetings to gather
12 information and obtain technical support.

13 --o0o--

14 ISD AIR RESOURCES ENGINEER HAND: The Committee
15 continues to meet in work groups on specific topics in
16 order to inform their recommendations. At Board meetings
17 and public Scoping Plan workshops, the EJ Advisory
18 Committee members are invited to share perspectives after
19 staff presentations. In the event of a workshop with
20 panel speakers, Committee members are invited to
21 participate on a panel.

22 --o0o--

23 ISD AIR RESOURCES ENGINEER HAND: EJ Advisory
24 Committee Members engage local communities through events
25 supported by CARB. These community workshops are intended

1 to inform Scoping Plan recommendations. These community
2 engagement events are supported with CARB funding and
3 logistical support.

4 --o0o--

5 ISD AIR RESOURCES ENGINEER HAND: One example of
6 a community engagement workshop occurred in February,
7 hosted by the San Joaquin Valley EJ Advisory Committee
8 members. Over 100 participants joined the virtual meeting
9 to share ideas and priorities.

10 The next events are planned for May.

11 --o0o--

12 ISD AIR RESOURCES ENGINEER HAND: We are
13 conducting a number of analyses to evaluate the
14 alternative scenarios. Now that we have these
15 alternatives scenarios that illustrate how we might use
16 energy in the future, we can begin to evaluate the impacts
17 of achieving that transition away from fossil fuels. The
18 characteristics in each of alter -- of these alternatives
19 will result in different health and economic outcomes. We
20 are beginning similar evaluations of the land management
21 strategy scenarios as well.

22 We will explore cost of policies, the social cost
23 of carbon, and estimated air quality benefits as required
24 by AB 197. In addition, we will evaluate public health,
25 economic, and environmental aspects of the Scoping Plan

1 alternatives.

2 --o0o--

3 ISD AIR RESOURCES ENGINEER HAND: There are many
4 activities slated for the next two months in preparation
5 for release of the Draft Scoping Plan. In April, there
6 will be a public workshop with air quality, public health,
7 and economic modeling results. We are also planning a
8 transportation sector focused workshop. In May, we plan
9 to release the Draft Scoping Plan for public comment, and
10 in June we will present the Draft Scoping Plan to the
11 Board. The Board may provide additional direction to CARB
12 staff to inform the Final Scoping Plan.

13 The Environmental Justice Advisory Committee
14 continues to meet regularly. Community meetings are being
15 scheduled to seek input and provide information on how
16 community members can influence the Scoping Plan.

17 Based on Board direction, additional workshops,
18 EJ Advisory Committee meetings and public input, updated
19 modeling will be conducted this summer in preparation for
20 assembling the proposed Final Scoping Plan.

21 --o0o--

22 ISD AIR RESOURCES ENGINEER HAND: In terms of the
23 overall schedule, staff will present the Draft Scoping
24 Plan to the Board in June. There will be another joint
25 EJAC Board meeting around September and staff is targeting

1 bringing the proposed Final Scoping Plan to the Board for
2 adoption by the end of 2022.

3 Chair Randolph, that in -- that concludes the
4 staff presentation. Before inviting guest speakers, does
5 the Board have any questions.

6 CHAIR RANDOLPH: Not at this time. Why don't you
7 go ahead and invite the guest speakers.

8 ISD AIR RESOURCES ENGINEER HAND: Okay. Our
9 first invited speaker is Jared Blumenfeld, California
10 Secretary of Environmental Protection.

11 Secretary Blumenfeld.

12 CALEPA SECRETARY BLUMENFELD: Hey. Appreciate
13 the opportunity, yeah. So just for the record, my name is
14 Jared Blumenfeld and I serve as the Secretary of
15 California's EPA. And Chair Randolph and CARB Board
16 members, it's a distinct privilege to be with you today to
17 help kick-off the discussions on the modeling for the 2022
18 Scoping Plan.

19 As you each know, we live in extremely
20 challenging times. And when I think of the things that
21 I'm most excited about, the Scoping Plan process rises to
22 the top. The reason it gives me hope is because it
23 proposes pathways out of the darkness, it's intentional,
24 it's based on community voices and science, and we're not
25 waiting to solve the planet's largest crisis. We're

1 meeting the moment with the urgency it demands. And like
2 cartographers of yesteryear we're charting a course past
3 the horizon's edge.

4 I want to start by thanking Richard Corey and
5 Rajinder Sahota, who, with their incredible teams at CARB
6 and the contracting folks we just heard from, have created
7 this multi-faceted three-dimensional decision support
8 tool. This endeavor has required CARB and many others
9 working countless weekends and late nights, and is really
10 important to me that we acknowledge the people and
11 government who are truly making a difference.

12 We're not going to solve the climate crisis
13 without solving the crisis of inequality plaguing
14 California and the planet. By achieving a quality of
15 opportunity, a quality of the fundamental right to breathe
16 clean air, drink clean water, and live on land
17 uncontaminated by toxic chemicals, we will have the
18 foundation upon which the solutions we see can be
19 implemented.

20 Before we can be trusted as a partner of
21 communities, we must evidence our ability to listen
22 empathize and develop new models of power sharing. And
23 I'm so grateful to the EJAC for your work as a catalyst of
24 paradigm change.

25 I know I personally can be exhaustingly slow to

1 understand, slow, and even uncomfortable to shift my
2 perspectives so that I can even meet you halfway. And
3 yet, together we have all come a long way. Together, we
4 also have a long way to go, but together we're stronger
5 against the forces that want to keep polluting our
6 communities.

7 With this Scoping Plan, I will be focused on the
8 key actions that will make the most difference for the
9 greatest number of vulnerable Californians.

10 We all want the Scoping Plan to be everything it
11 can be, but it's also important to define what it is not.
12 The Scoping Plan will not prescribe specific policies,
13 actions, or funding decisions. The Scoping Plan is the
14 beginning not the end of the a process. The Scoping Plan
15 will require regulations, and laws, and Executive Orders,
16 and significant funding to bring it to life. All those
17 processes will engage the public and be informed by new
18 innovations, changing realities on the ground, and by
19 everyone's ideas.

20 The scale of the opportunity and the scale of the
21 challenge is staggering. There are a few things that
22 stand out for me from the modeling. First of all, the
23 scenarios modeled drastically reduce our dependence on
24 fossil fuels. As Governor Newsom said in this year's
25 State of the State quote, "Drilling even more oil only

1 leads to even more extreme weather, more extreme drought,
2 more wildfire. Our nation-leading climate investments
3 this year's budget proposes 38 billion will ensure that
4 other innovations will surely follow". He continued, "By
5 not recreating the 20th century by extraction more oil but
6 extracting new ideas, drilling for new talent, by running
7 our economy on a carbon-free engine".

8 Secondly, getting to our 2030 and carbon
9 neutrality targets will not be easy. Every single sector
10 and subsector will have to make major reductions and/or
11 increase carbon sequestration. At the same time, every
12 single sector must be part of the solution. And with a
13 concerted effort, as we just heard, on natural and working
14 lands, we'll have fewer emissions and sequester more
15 carbon than today.

16 Our energy and industrial sectors will similarly
17 drive down their emissions. There are, as we know, no
18 silver bullets in achieving these targets. There's no one
19 sector or one action that can do it alone.

20 Another key takeaway from the modeling is that no
21 matter what we do to drive down combustion, in every
22 scenario some emissions will persist in 2045. As a
23 result, this is not the time to take any tools off the
24 table. I'm committed to working with all of you in
25 developing principles that help us effectively and safely

1 deploy new carbon reduction technologies, such as CCS and
2 direct air capture.

3 California is a leader when it comes to
4 innovation and we will continue to invest in technological
5 development. As you new carbon reduction strategies and
6 technologies come online, they will be taken into account
7 when the Scoping Plan is updated in 2027.

8 I'm glad that Julie Henderson, Director of the
9 Department of Pesticide Regulation is also providing
10 remarks today. Accelerating a system-wide transition to
11 safer more sustainable ways to manage pests and
12 strengthening the State's pesticide use enforcement are
13 top priorities for this administration. Julie's
14 department is leading the change on both better protecting
15 public health and the environment, particularly in our
16 most vulnerable communities.

17 I've heard calls during these meetings for
18 pesticides to be included in the Scoping Plan. However,
19 as of now, we don't have evidence that pesticides are an
20 important source of GHG emissions and we must continue to
21 focus the Scoping Plan on its purpose, charting our path
22 to carbon neutrality -- neutrality and assessing our
23 progress towards our 2030 goals.

24 To those who argue that more research is needed
25 on the connection between pesticides and GHG emissions, I

1 agree with you, and I'd note that CARB, DPR, and sister
2 agencies alike will be working on research on this
3 subject. I also want to acknowledge the incredibly
4 critical role that other government agencies within
5 California are playing on developing the Scoping Plan,
6 from the California Public Utilities Commission, to the
7 Natural Resources Agency, to C -- to the California Energy
8 Commission, to GovOps, to the California Department of
9 Food and Agriculture. Karen Ross, the Secretary, is here
10 today. All these, and many, many more, led in the
11 Governor's office by the Governor's Senior Policy Advisor
12 on Climate, Lauren Sanchez, are coordinating a very, very
13 large and complex interagency collaboration. And the
14 number of hours that we can look at our CARB employees and
15 CARB Board members is being extrapolated out through
16 government agencies. This really is an all-of-government
17 approach.

18 Once it's completed, the task of implementing the
19 Scoping Plan will require all of us working together. We
20 must act decisively with courage and urgency, so that
21 communities, ecosystems, and our economy are protected
22 from the worst impacts of climate change, while building a
23 more just and equitable society.

24 I really appreciate the opportunity to be here
25 with you today and I'm looking forward to the discussion.

1 Thank you.

2 ISD AIR RESOURCES ENGINEER HAND: Next. We would
3 like to invite Virginia Jameson, Deputy Secretary for
4 Climate and Working Lands at the -- of the California
5 Department of Food and Agriculture.

6 Deputy Secretary Jameson.

7 CDFA DEPUTY SECRETARY JAMESON: Thank you very
8 much having me. Hi. My name is Virginia Jameson. And
9 sorry, Secretary Blumenfeld, you're stuck with me today.
10 Secretary Ross had a conflict.

11 But thank you. We are grateful to the Air
12 Resources Board's staff for this first crack at difficult
13 modeling in the natural and working lands sector and being
14 so collaborative with CDFA, and Natural Resources Agency
15 staff throughout the process.

16 Achieving carbon neutrality is an incredible but
17 necessary challenge. As Secretary Blumenfeld mentioned,
18 we know that we will have -- need to have all sectors
19 contribute to our emissions reductions. We are already
20 seek the impacts of climate change, particularly during
21 the current climate change induced drought, which is
22 having such a devastating impact on our farms, ranches,
23 and environment.

24 The Scoping Plan models we saw today drive home
25 the message that active management of our landscapes for

1 climate benefits is vital and that there's significant
2 opportunity for soils and other Climate Smart land
3 management practices to support California's climate
4 change goals, and that we will need to increase our
5 efforts toward measuring, monitoring, and verifying our
6 efforts to ensure progress.

7 Fortunately, many of our State agencies,
8 including CDFA, have been developing programs and
9 initiatives that seek to bolster our natural and working
10 lands as carbon sinks, such as our Healthy Soils Program.
11 We stand at the ready to ramp up our deployment of these
12 efforts and we are confident that our lands are part of
13 the solution.

14 We've also seen a lot of leadership from our
15 agricultural sector. Last January, we held a series of
16 workshops where we received countless ideas climate
17 actions, what we -- which we put together in a report
18 called, "Farmer- and Rancher-Led Climate Change
19 Solutions". These are the folks who are experiencing the
20 impacts of climate change on a daily basis and they're
21 also leading the charge to mitigate its impacts and come
22 up with adaptation and resilient strategies.

23 As the staff presentation also highlighted, we
24 know that there's still a ways to go to meet the methane
25 targets called for in statute, but we're making progress

1 now by deploying digesters and other manure management
2 practices in California that have a proven track record of
3 success.

4 We are proud that California has the most
5 ambitious methane reduction goal in the world and our
6 dairy families are important partners in making those
7 reductions. Additionally, there are many co-benefits
8 associated with Climate Smart agricultural practices, like
9 improving soil water holding capacity, improving air
10 quality, and increasing yields that will not only continue
11 to produce nutritious foods for the nation and the world,
12 but will also make us more resilient to climate change
13 into the future.

14 In closing, we look forward working with the Air
15 Resources Board and our stakeholders as we continue to
16 pursue these opportunities and to participating in future
17 modeling activities together.

18 Thank you.

19 ISD AIR RESOURCES ENGINEER HAND: Now, Julie
20 Henderson, the Director of Department of Pesticide
21 Regulation will make some remarks.

22 DPR DIRECTOR HENDERSON: Good afternoon. My name
23 is Julie Henderson and I'm the Director the Department of
24 Pesticide Regulation. I've been in this role since July
25 of last year, first in an acting capacity and then

1 appointed in December.

2 Before that, I was Deputy Secretary for Public
3 Policy at CalEPA. Thanks very much for inviting me to
4 join you today to share information about the actions
5 we're taking to reduce the use of hazardous pesticides and
6 to strengthen our enforcement efforts to better protect
7 the health of all Californians and our environment.

8 Equity and environmental justice and engaging
9 meaningfully with communities most impacted by pesticide
10 use are central to our work. And our ongoing
11 collaboration with CARB, CalEPA, CDFG, and our other
12 sister agencies provides critical input and support.

13 I'll start with some quick background on our
14 mission. DPR is responsible for regulating the use of
15 pesticides in California in agricultural and
16 non-agricultural settings, so that their use is safe and
17 avoids harm to communities, workers, and the environment.
18 We scientifically evaluate all pesticides to assess their
19 potential health and environmental risks prior to
20 registration and use in California, and we continue to
21 evaluate those risks after registration. We oversee
22 statewide enforcement of pesticide laws that are enforced
23 locally by the State's 55 county agriculture
24 commissioners, and we're seeking additional funding in
25 this year's budget to strengthen those efforts.

1 In addition to your regulatory role, we're
2 responsible for fostering and accelerating the use of
3 safer and more sustainable ways of managing pests to
4 better protect public health, workers, and the
5 environment. This is our direction for the future and it
6 requires a system-wide approach that engages all
7 stakeholders with that focus.

8 So together with CalEPA and CDFG, we convened the
9 Sustainable Pesticide Management Work Group last year to
10 recommend pathways and ambitious, targeted, measurable
11 goals to support and accelerate the system-wide
12 transition. We anticipate draft comments from the work
13 group this spring. The work group includes 26 members
14 from diverse backgrounds including community and tribal
15 representatives, who bring environmental, social justice,
16 and farmworker perspectives, conventional and organic
17 growers, and other representatives from across the
18 agricultural industry, university researchers, and public
19 health experts, and government representatives.

20 Effecting this system-wide change will not be
21 easy and it will take time, but it's critical. It will
22 require alternative pest management tools and practices.
23 It will require research to develop those tools. It will
24 require outreach and education to support farmers of all
25 sizes moving to more knowledge-intensive, regional, and

1 crop-specific practices that focus on long-term prevention
2 of pests and the use of the least toxic effective methods
3 to control them and it will also require incentives to
4 take risks to move to a new system of operate.

5 We're collaborating closely with the CARB,
6 CalEPA, CDFA, and the Natural Resources Agency to connect
7 the work group's goals and recommendations to the State's
8 natural and working lands, Climate Smart, and Healthy
9 Soils strategies, and to identify multi-benefit solutions
10 that address pesticide, air, climate, and water risks.
11 We're also working together on research related to
12 connections between pesticides, and healthy soils, and
13 greenhouse gas emissions.

14 In addition, with supplemental one-time funding
15 this year, we'll be administering five and a half million
16 dollars in integrated pest management research grants to
17 incentivize innovation and outreach and education grants
18 to promote and expand the adoption of integrated best
19 management practices.

20 I want to go back to the topic of our equity and
21 environmental justice work that I mentioned as core to our
22 mission. We're working closely with AB 617 community
23 steering committees, CARB, OEHHA, and local air districts
24 in the communities of Shafter, Eastern Coachella Valley,
25 and Arvin-Lamont. We conducted pilots for alternative

1 mitigation measures to reduce emissions and potential
2 exposures to the fumigant 1,3-dichloropropene or 1,3-D in
3 Shafter and are in the process of developing regulations
4 to implement those strengthened mitigation measures.

5 We also are in the process of developing a
6 statewide pesticide application notification system that
7 grew out of the Shafter community steering committee's
8 request for notification of pesticide applications. We're
9 coordinating with CARB, OEHHA, the steering committees,
10 and local air districts in Eastern Coachella Valley and
11 Arvin-Lamont on ambient air monitoring to evaluate
12 potential exposures unique to each community to inform
13 potential mitigation measures. And in response to each
14 community's concern regarding engagement at the local
15 level, we have facilitated conversations between the
16 residents and steering committees and their local
17 agricultural commissioners to further interagency
18 engagement and strengthen relationships at the local
19 level.

20 We're also beginning a process to develop a
21 county agricultural commissioner and community engagement
22 framework in collaboration with community, ag
23 commissioner, CalEPA, and CARB representatives. We look
24 forward to this work and our transition to a safer system
25 of managing pests to ensure that we're protecting all

1 Californians and our environment while supporting
2 agriculture and the management of pest pressures in
3 non-agricultural and urban areas.

4 Thanks very much for the opportunity to be here
5 with you today.

6 ISD AIR RESOURCES ENGINEER HAND: From the
7 Environmental Justice Advisory Committee, first we will
8 have Martha Dina Argüello, followed by Sharifa Taylor,
9 then Connie Cho, and finally Dr. Catherine Garoupa White.

10 MARTHA DINA ARGÜELLO: Hello. Good afternoon.
11 I'm Martha Dina Argüello the Executive Director of
12 Physicians for Social Responsibility, Los Angeles. I do
13 want to add that another EJAC member, Matt Holmes, is also
14 going to be presenting with us. So thank you again for
15 this opportunity.

16 As stated in the CARB presentation, the EJAC has
17 been incredibly busy doing, you know, outreach to
18 communities, but also working with CARB and the staff to
19 develop a true environmental justice scenario as reflected
20 in our recommendations. You know, a lot has been said
21 about all the work that has been done by the Environmental
22 Justice Advisory Committee. And as this is not my first
23 time being on this committee, I continue to be very
24 concerned about performative engagement versus meaningful
25 engagement. And to us that meaningful engagement act --

1 actually means we are listened to and see our concerns and
2 experience reflected in the Scoping Plan.

3 And I think that the scenarios that we saw today
4 still do not meet that standard. We urge the Board to
5 take seriously the concerns expressed by the international
6 climate and environmental justice community about the
7 feasibility and viability of carbon capture and
8 sequestration themes -- schemes. I urge you to look at
9 the emerging body of evidence that is not funded directly
10 or indirectly by the fossil fuel industry that these will
11 not work, that they will not get us to where we need to
12 be. And if our plan rests on technology that have not
13 been proven, what happens when we don't meet those goals.
14 What are the opportunities lost to actually improve air
15 quality and make our communities healthier and more
16 breathe -- breathable, and actually make the path toward a
17 just transition.

18 These plans allow -- we need to understand that
19 if you extend the life of the fossil fuel infrastructure,
20 that infrastructure currently is based in low income
21 communities and communities of color, environmental
22 justice communities. So to say that, you know, I think it
23 is clear that those impacts will fall on that community --
24 on our communities the most. And so it -- it's just sort
25 of -- I'm not sure why we're doing this, right? If it

1 allows us to say on some report, yes, we met these
2 standards of carbon capture, a technology that hasn't been
3 proven, I just really think the Board needs to tell staff
4 to go back and one, as Matt says, model out some worst
5 case scenarios. What happens if this technology doesn't
6 work? What happens if this technology, as happened with
7 others, actually ends up producing more carbon than it
8 takes in? These are serious questions. They're not --
9 you know, and there's an emerging body of evidence that
10 shows us that these concerns are real.

11 All right. We don't want to be here in three
12 years and say we told you this would happen, right? We
13 just have to get it right and do better at getting it
14 right. And part of getting -- doing better is looking at
15 the body of our -- of our recommendations and seeing the
16 reductions that it can get us and moving aggressively
17 toward those reductions, and getting us to real zero, not
18 net zero, not carbon neutrality, but really zero
19 reductions.

20 And I think it's important also that we adopt a
21 meaningful -- you know, pesticide reduction targets,
22 reduce the use of chemical pesticides by 50 percent by
23 2030, reuse -- reduce the haz -- use of hazardous
24 pesticides by 75 by 2035, and overall adopt more ambitious
25 targets for organic al -- I can't talk today -- organic

1 agriculture.

2 And, of course, you know, I'd be remiss if I
3 didn't say we've still yet to see how and when there will
4 be a robust public health analysis of past plans, and of
5 these measures, and of, you know, what are the potential
6 impacts if these fail.

7 And with that, I'm going to hand it over to my
8 other co-chair and my other EJAC members.

9 Thank you.

10 SHARIFA TAYLOR: Thanks, Martha Dina. Thanks
11 everyone who's spoken so far. It really gave me some more
12 things to think about in conjunction with the workshop
13 last week. I support everything Martha Dina just said.
14 To add some different comments, I'm really looking forward
15 to meeting with folks from E3 as well as the CARB staff
16 who are working on the Draft Scoping Plan, as well as once
17 it's relevant, the UC Irvine and Rhodium group folks
18 related to IMPLAN and whomever is responsible for BenMAP,
19 so that we can, like Martha Dina said most recently, have
20 a robust public health analyses, especially since you all
21 are considering CCS in every scenario, even the most
22 health protective scenario, which would be Scenario 1. We
23 definitely need a life cycle analysis in order to know how
24 this is going to effect our EJ communities, especially
25 because all of these CCS projects of course are being

1 housed where all the pollutants are, which are in our, of
2 course, EJ communities.

3 Also, I guess there's just still some concern
4 about how the public health analyses that are done with
5 BenMAP or any other type of modeling how they will be
6 incorporated into the modeling that we've seen so far with
7 PATHWAYS and that we will see with IMPLAN being that as
8 the plan is drafted from these first two models, BenMAP,
9 or the public health analysis is kind of just slapped on
10 there at the end.

11 And I think it's great that we are, of course,
12 focusing on like the economic aspects of climate
13 solutions, but I think to put the humanistic public health
14 concerns at the end ignores who it is that's going to be
15 acting out these economics solutions. And so I think, you
16 know, being able to mindfully put effort into
17 understanding like the risks to EJ communities, the risks
18 to the folks in the labor who are going to be helping to
19 move these changes along, I think is something we just
20 need to put more thought and discussion into.

21 And I guess that's the end of my comments for
22 now. Just cause that was the major concern, I don't want
23 to repeat what Martha Dina said, because she said it so
24 eloquently and I will pass it now to whomever is speaking
25 next from the EJAC.

1 Thanks so much.

2 ISD AIR RESOURCES ENGINEER HAND: Connie you can
3 go ahead.

4 CONNIE CHO: Hello. This is Connie Cho. I am a
5 member of the EJAC from Communities for a Better
6 Environment. I use she/her pronouns. And I'm thankful to
7 the modelers here to the modelers for providing some very
8 useful information here. And I want to take a little bit
9 of a different tack in my comments zeroing in on one
10 specific sector. But I think it -- there are some lessons
11 here that can be extrapolated to the other sectors as
12 well.

13 There are so many critical assumptions that are
14 essential to understanding this modeling presentation that
15 are missing and they're scheduled to be released in May,
16 while comments are due April 4th, so that puts us in a bit
17 of a predicament. But I'd like to provide some had
18 context raise some questions that illustrate the
19 importance of understanding those assumptions that we have
20 questions about specifically in the refinery sector.

21 First, I'd like to raise that the environmental
22 justice advocates actually requested a 2045 phaseout date
23 notably with no CCS, which is not reflected here in any of
24 the alternatives, because we do care about feasibility and
25 we do care about complex data driven cross-stakeholder a

1 planning. And we through -- can discuss later other
2 mechanisms determined that 2045 was an appropriate target
3 phaseout date.

4 My main comment here is specifically about how
5 the refinery 90 percent capture rate assumption for CCS on
6 Alternatives 2, 3, and 4, and its timing for immediate
7 deployment is completely divorce from reality. The
8 modeling is only going to be as useful as the assumptions
9 and parameters that CARB chooses to provide.

10 So for some important background, in an EJAC work
11 group, the only example that CARB CCS protocol staff were
12 able to point to when I asked for an example of CCS
13 working on refineries was the Shell refining upgrade in
14 Alberta, Canada, where they have a tax on the tar sands to
15 fund these sorts of pilots.

16 The project ran into the billions. The actual
17 carbon capture is only on one piece of upgrader equipment
18 when refineries have thousands of emission sources. And
19 then another independent report showed it emitted more to
20 run overall than it captured.

21 Even if the technology existed for the other
22 emission sources at a refinery, where would they
23 physically put it? There's a serious problem of physical
24 limitations even for basic pollution controls at
25 California refineries right now. I want to know if that

1 was accounted for. There are only so many refineries in
2 California, so if we want to look at CCS on California
3 refineries, it doesn't have to and shouldn't be a
4 hypothetical exercise. You should assess the issue and
5 then craft an assumption that's appropriate. We can't
6 just pick a number that sounds nice or perhaps a number
7 that an oil lobbyist suggested.

8 And so in the Alberta project CCS on its -- on
9 one of the hundreds of emission sources, it looks like it
10 hit 80 percent at best, but with significant performance
11 issues. It's inconsistent. Some days being at 15 percent
12 and that doesn't even include the emissions required to
13 run the technology of course.

14 So all this still doesn't help me understand what
15 percentage of the total emissions at a refinery is assumed
16 to be captured, given that the capture technology in a
17 refinery only operates at one part of the refinery and I
18 won't go into the technical details of that.

19 But a California refinery is much bigger than an
20 upgrade is something we should know, and has significantly
21 more emission sources. And the air districts know that
22 because there can be hundreds, thousands of permits at a
23 single refinery. So I'd like to see that assumption,
24 because refineries don't even have continuous emissions
25 monitoring right now at all their emission sources. This

1 is a persistent data collection problem that I'm sure some
2 CARB staff are aware of.

3 And this modeling also assumes a steady carbon
4 capture from CCS starting immediately in the -- in the
5 graph. Is the implication that we just ask all the oil
6 industries to get started on this as a pinky promise, so
7 they'll reach uncharted levels of continuous carbon
8 capture, is that what we're assuming California is willing
9 to invest billions in?

10 So I think that those who care about California's
11 bottom line, not just the bottom line of industry would be
12 concerned about the multi-billion dollar price tag for CCS
13 required per refinery and the risks that I assume as
14 industry would ask to take on.

15 Now, if we want to honestly talk about capturing
16 carbon out of the atmosphere -- atmosphere while doing
17 everything to decarbonize everywhere else, we should have
18 that conversation. And I'm actually very open to that
19 dialogue. I love learning about new technologies. But we
20 have to have that conversation separately from a just an
21 equitable transition planning process to manage the
22 declining need for liquid fuels from over hundred year old
23 fossil fuel refineries, while providing a safety net for
24 their workers and communities who live there, because of
25 State sanctioned racist redlining.

1 You know, there are so many different kinds of
2 carbon capture I've learned about and it's really sort of
3 confusing at first. And it's frankly heartbreaking that
4 there are corporations out there trying to confuse
5 everyone in kicking the can down the road on their
6 corporate billion dollar Environmental remediation
7 liabilities and workers' pensions, buying time to draft
8 their bankruptcy paperwork.

9 So I just ask the Board members to separate --
10 separate the currently very academic discussion of what it
11 means to have excess carbon, and really look carefully at
12 the state of technologies for each sector as they exist
13 now, the state of currently existing infrastructure now
14 that you are proposing to put CCS on and their impact on
15 communities, and think about what it really means to spend
16 billion and billions to extend the life of fossil fuel
17 infrastructure like refineries, with the rate of almost
18 absolute uncertainty.

19 And lastly, I'll just say that after seeing this
20 hypothetical assumption, it's a real slap in the face
21 after -- to see this and to see the OEHHA report in which
22 GHGs and PM2.5 pollution went up. It increased in
23 refinery communities, disproportionately Black and Brown
24 communities. And those illnesses, those deaths, those
25 funerals are not hypothetical. They're real.

1 That concludes my comments.

2 DR. CATHERINE GAROUPA WHITE: Good afternoon and
3 thank you for that you for the opportunity to comment.
4 This is Dr. Catherine Garoupa White. I use they and she
5 pronounce and I'm the Executive Director of the Central
6 Valley Air Quality Coalition, or CVAQ, and also serve on
7 the EJAC. Thank you to my comment -- to my colleagues and
8 I support your comments as well. CVAQ works to restore
9 clean air to the San Joaquin Valley, which is one of the
10 nation's most polluted and poorest places. We work in
11 unceded Yokuts and Miwok lands.

12 We know that front-line communities contribute
13 the least and are impacted first, worst, and cumulatively,
14 and the Scoping Plan will only improve public health and
15 achieve climate justice if the assumptions are calibrated
16 correctly.

17 From the start, EJAC has been put in a
18 reactionary position and asked for adjustments from major
19 to minor, from improved format and coordination of the
20 public workshops and other forms of engagement to analysis
21 regarding public health and social costs of past plans and
22 current measures that includes local, cumulative, and
23 synergist impacts.

24 An analysis of the role of Cap-and-Trade is
25 missing from the current discussion of the modeling and

1 discussion of how mounting problems with the program will
2 be addressed. We are essentially halfway through the
3 planning process. And as EJAC members, we came together
4 to submit a second round of recommendations that again
5 frankly were rushed and that we need more time for robust
6 dialogue around.

7 While I appreciate the recognition for the
8 community engagement event that we held in the San Joaquin
9 Valley, again it was done with not enough time to really
10 have integrated and aligned planning. We are still
11 working to synthesize our written report out and look
12 forward to sharing that at a future meeting, and can
13 generally say that the overarching themes of climate
14 justice and resilience came through from strategies that
15 have been named today, but again that we need to see
16 implemented in our communities, like ecosystem
17 restoration, urban greening, and really a theme that our
18 communities are concerned that they're going to be left
19 behind as usual when these investments come through, that
20 it will be the wealthy communities, and the easy places,
21 and the big corporate polluters that will continue to
22 benefit. With longer term planning and support for EJAC,
23 which we've repeatedly asked for, feedback from our most
24 impacted neighborhoods could be more directly integrated
25 into the plan.

1 And oftentimes in these meetings, we hear big
2 questions asked again and again, like what is the Scoping
3 Plan? The Scoping Plan is an important exercise that
4 sends market and policy signals related to key technology
5 choices as much as it's CARB's interpretation and analysis
6 of existing laws. Environmental Justice communities want
7 the right investments and recognition that money and
8 technology will not solve every problem.

9 Another overarching question that we are
10 constantly hearing is when will this happen? And often
11 it's not now, in the future. If this plan is truly an
12 iterative process that is updated every five years, this
13 plan is not a beginning or an end. It's a continuation.
14 We've heard a lot of interest in equity and an interest in
15 permanence for EJAC and a more integrated role.

16 So now we need to see actions to actually make
17 those things happen. What is the Board's commitment and
18 what is your role in the Scoping Plan now with your
19 existing resources and with an eye towards planning for
20 the long term.

21 In closing, I just really want to underscore
22 Connie's comments about wanting to be in dialogue. These
23 are challenging conversations. This is a difficult
24 challenge that we have in front of us that we need to
25 tackle together by improving planning and by providing

1 direction for CARB staff that every division should have
2 assigned roles in the planning process. We are past due
3 having an integrated approach and breaking down silos.

4 Thank you for the opportunity to comment and I
5 will pass it now to my colleague Matt Holmes.

6 MATT HOLMES: Thanks. Found the notification. I
7 really appreciate the comments from my colleagues. This
8 body is really lucky to benefit from the insights of women
9 like that. So I'll just start by saying my name is Matt
10 Holmes. My pronouns are he/him/his. I'd live in
11 Stockton, California, and I work for Little Manila Rising.

12 You know, my experience in this CARB EJAC has
13 really been an education. I've been really grateful for
14 the opportunity to learn about all of these amazing
15 policies that impact my community in Stockton. I've met a
16 lot of smart hard working people at CARB that absolutely
17 want to do the right thing. But there are times, I think
18 as you just heard, where we're not connecting on like
19 direction, and values, and -- you know, I feel like I'm
20 tapping on really thick glass and people can't hear me on
21 the other side.

22 So there's -- you know, like I said, I'm not a
23 technical person, but I know a little bit about history
24 and I know a little bit about culture, and there's some
25 real barriers between this agency and the significance of

1 this plan, and really understanding the communities that
2 it impacts the most.

3 You know, I have felt throughout this process
4 that I am responding to a prebaked conclusion that ISD
5 knows that it wants to do and it wants to sort of tear the
6 Band-Aid off on the EJAC process, and get through this,
7 and get back to the work that it knows is more important
8 than hearing our input. So I'm really worried about being
9 appendicized and marginalized again.

10 So I think we -- you know, we're talking with
11 people and they seem to hear us sometimes about breaking
12 down these barriers. I think that can happen by, you
13 know, empowering an EJ Division that is sincere in hearing
14 from us, but doesn't seem to really have a lot of say in
15 this process that was sort of -- you know, they knew it
16 was coming for five years, but there was really no plan to
17 ramp us up and get us to some level of understanding where
18 we could provide an informed set of recommendations.

19 So throughout the whole process, there's been
20 kind of like a reticence to make a confident statement
21 about any of these scenarios, because even though we've
22 been meeting with you all since June, like excessively, I
23 still feel really uninformed on some of these scenarios.

24 So, you know, my hope is that we can actually
25 extend this process. You know I don't think the 20 --

1 it's been clear that there's no political will to protect
2 the 2022 Scoping Plan with a -- with an extension. But,
3 you know, there will be another Scoping Plan, and it would
4 be just a shame if in 2027, we were to trot out 30 new
5 unsuspecting community advocates and ambush them with a
6 dearth of knowledge and a mountain of responsibility.

7 So I hope we can sort of plan for the future and
8 find a way to break down the barriers between staff and
9 the -- you know, really what's a myopic set of research
10 questions that seem to be, you know, interested in
11 preserving business as usual, instead of really taking a
12 hard look at the moment that we're in.

13 I also think there's an opportunity to break down
14 the barriers between these appointed Board members. Ever
15 time we meet with you all, we hear -- we hear like
16 important insights and considerations. And, you know,
17 those are things that should be peppered in throughout our
18 process.

19 So again I think maybe I'm the optimist in the
20 group, which will shock everyone on this call. But in the
21 long term, I think we can get into dialogue, but I can't
22 lie right now, I do not feel like we are in dialogue. And
23 I feel like we are mostly commenting on process rather
24 than commenting on the content.

25 So, you know, 2022 plan feels like it's in

1 trouble. I look forward to learning as much about it as
2 possible. And I'll just say that, you know, I am not a
3 technically proficient person, but I am a history teacher
4 and I know what fairness looks like.

5 (Knocking)

6 MATT HOLMES: Oh, and I'm getting a package at
7 the door.

8 You know, and so I just -- I just hope that we
9 can use this opportunity, acknowledge that inequity isn't
10 just wrong. It's dangerous. You know, COVID should have
11 taught us that and the policies that the Scoping Plan are
12 framing have a chance to really paint this state into a
13 corner.

14 (Knocking)

15 MATT HOLMES: So I don't expect California to
16 necessarily do the right thing because they care about us,
17 but at least out of the basic self interest agree, they
18 should really take the consideration of impacted
19 communities more seriously to protect everybody. So hope
20 we can pull something together. Thank you.

21 CHAIR RANDOLPH: All right. Thank you. Now, we
22 will hear from the public who would like to speak on this
23 item.

24 If you would like to speak, please raise your
25 hand or hit star nine now.

1 Board Clerk, will you please call the first
2 Commenter.

3 BOARD CLERK GARCIA: Thank you, Madam Chair. We
4 have 17 commenters who wish to speak at this time. If you
5 wish to verbally comment on this Board item, please raise
6 your hand or dial star nine now. And I apologize in
7 advance if I mispronounce your name.

8 The first three speakers are Jim Verburg, Richard
9 Grow, and Joy Alafia.

10 Jim, I have activated your microphone. Please
11 unmute yourself and you can begin.

12 JIM VERBURG: Thank you. Good afternoon, Chair
13 Randolph, members of the Board. For the record my name is
14 Jim Verburg. I am the Senior Manager for Fuels Regulatory
15 Issues for WSPA. WSPA is a trade organization that
16 proudly represents companies in California and for other
17 western states that provide biodiverse sources of
18 transportation fuels and other energy. In California, our
19 member companies employ thousands and contribute
20 significantly to California's economy. We are also a key
21 part of the energy transition throughout the west and in
22 California.

23 Appreciate the opportunity to comment today on
24 the Scoping Plan in particular. I want to start by saying
25 we appreciate CARB's acknowledgement of the important role

1 of renewable fuels, hydrogen, CCS play in our view.
2 California will not reach its interim or 2045 goals in a
3 feasible cost-effective way without these and a diverse
4 set of strategies.

5 We do, however, have some observations and
6 concerns about the scenario models to developed by E3. If
7 the transportation sector reductions are heavily reliant
8 on ZEV mandates, we recommend a more technology neutral
9 approach that allows for innovation and suggests that CARB
10 run scenarios without mandates to identify alternative
11 opportunities to reduce emissions in the transportation
12 sector.

13 We also have concerns given the structure of
14 scenario models about the overall program costs and cost
15 effectiveness. We suggest, as we did in our October 2021
16 comment letter, the employment of market-based approaches
17 prioritizing the lowest cost implementation. These market
18 based approaches that are technology neutral are critical
19 to pursuing carbon neutrality in the most cost-effective
20 way.

21 Finally, just a caution, and it's been mentioned,
22 that the goals as portrayed in all four scenarios will
23 require extremely large projects with emerging
24 technologies, the likes of which have not been seen in a
25 very short time frame. CCS, hydrogen, expand electricity,

1 renewable fuel and gas projects and all accompanying
2 infrastructure improvements. It's a daunting task for
3 permitting CEQA alone, not to mention other potential
4 barriers. We recommend that CARB carefully consider the
5 feasibility of deployment rates as they are currently
6 portrayed in the modeled scenarios.

7 So in closing, thank you for your time today. We
8 look forward to providing written comments for the fast
9 approaching April 4th comment deadline and engaging with
10 CARB and other stakeholders in the coming weeks and
11 months.

12 Thank you.

13 BOARD CLERK GARCIA: Thank you.

14 Richard, I have activated your microphone.
15 Please unmute yourself and you can begin.

16 RICHARD GROW: Greetings. My name is Richard
17 Grow. You've heard from me before. My expertise, such as
18 it is, comes from working several decades at the U.S. EPA
19 in the Air Program and environmental justice and civil
20 rights. And regarding emissions trading, I've been
21 involved over all those decades in developing guidance
22 policies, safeguards, in evaluating actual Cap-and-Trade
23 programs.

24 And while today's main agenda topic, it's been a
25 broad look at scenarios, and modeling, and so on. My

1 comments regarding scenarios have to do with scenarios not
2 yet evaluated. None of your scenarios include the
3 safeguards and reform that have been recommend and
4 needed -- and shown to be needed by your Cap-and-Trade
5 Program.

6 Regarding Cap-and-Trade, you have at least four
7 reports in play. The first one, much favored by CARB
8 staff, is a 2020 report from UC Santa Barbara written by
9 two economists, for Pete's sake, showing the benefit of
10 Cap-and-Trade supposedly, a report by now thoroughly
11 debunked and discredited. But then you have the OEHHA
12 report, which after having been disingenuously cherry
13 picked for very clear talking points, nevertheless shows
14 serious problems in Cap-and-Trade when it comes to the
15 refinery sector, as has been mentioned earlier, especially
16 for people of color, the sector in which emissions of
17 greenhouse gases and co-pollutants were found to have been
18 increasing rather than decreasing since the start of the
19 program. The problem is likely to exist in other sectors.

20 And then you also have the recent report released
21 at the same time by Manuel Pastor and others showing very
22 similar problems and recommending reforms that are in fact
23 identical to some of those being recommended by the EJAC
24 for the Cap-and-Trade Program.

25 And finally, you have the report from the

1 Independent Emissions Market Advisory Committee showing
2 that the AB 32 bank has so much funny money in it already
3 that basically the Cap-and-Trade Program is not going to
4 require any further reductions until 2030.

5 Anyone willing to cloak this situation in
6 congratulatory expressions is like -- which I heard a
7 hundred percent compliance of the Cap-and-Trade Program,
8 frankly is engaged in an intellectual gamesmanship and
9 dishonesty, games which are not only not amusing, but, in
10 fact, are dangerous to public health, especially for
11 disadvantaged communities.

12 So anyone on staff -- likewise on staff for the
13 Board claiming the mantle of environmental justice while
14 letting these games go on, I get -- I almost -- I don't
15 know what to say to you, but like stop it. And CARB
16 overall and the Board needs to stop stonewalling on this
17 issue, needs to do its due diligence and step up to the
18 evaluation of the recommendations and reforms of the
19 Cap-and-Trade system being put forward by the
20 Environmental Justice Advisory Committee and this needs to
21 be done now, not during. It needs to be done now, during
22 and not after the Scoping Plan process, so that you can
23 then deal with the real challenges left once the smoke
24 screen left behind, behind which the Cap-and-Trade Program
25 has been hiding has been removed.

1 Thank you.

2 BOARD CLERK GARCIA: Joy Alafia. After Joy
3 we'll hear from Jeanne Merrill, Mariela Ruacho and Virgil
4 Welch.

5 Joy, I have activated your microphone, please
6 unmute yourself and you can begin.

7 JOY ALAFIA: Thank you. Thank you, Chair
8 Randolph and Board members for the opportunity to speak.
9 My name is Joy Alafia pronouns she/her/hers.

10 And I am with the Western Propane Gas
11 Association, an organization that powers rural
12 Californians, low-income populations, emergency and
13 essential facilities like hospitals and water treatment
14 facilities among of host of other markets.

15 Our industry's interest align with the goals of
16 CARB in an effort to provide meaningful greenhouse gas
17 reductions and to do so equitably. It is because of this
18 belief that our organization set forth the ambitious goal
19 to provide Californians with a hundred percent renewable
20 propane by 2030. This is a self-imposed goal as renewable
21 propane is -- provides up to 2.26 million tons of avoided
22 CO2 emissions.

23 And we can do this within the next two to five
24 years with the right support. This is the equivalent of
25 taking 537,000 cars off the road annually. Renewable

1 propane is produced from sources like use cooking oil and
2 animal fat, and provides a reduction of up to 80 percent
3 versus fossil fuels.

4 So as we transition to renewable propane, we can
5 empower communities that are left stranded by other
6 cleaner energy solutions or even provide resiliency for
7 communities to power through any Public Safety Power
8 Shutoffs or energy when they are asked to power down, so
9 there's a collective benefit here. And we can provide
10 this sustainable energy as early as 2024 in significant
11 volume with the right support.

12 I echo the comments of the EJ commentate --
13 commenter to look at life-cycle emissions as well as to
14 devise timeline benchmarks for deployment and assure that
15 the cost is equitably distributed, so that all communities
16 have access to carbon neutral solutions.

17 We encourage CARB staff to think creatively for
18 how all carbon-neutral technologies can work in concert to
19 provide complementary power, back-up power, power to
20 remote and rural communities and increase the volume of
21 renewable grid electricity that's available.

22 Through this lens, renewable propane delivers and
23 we look forward to working with CARB staff to further
24 elaborate on these points and the unique opportunities to
25 help achieve these goals.

1 Thank you.

2 BOARD CLERK GARCIA: ...unmute yourself and you
3 can begin.

4 JEANNE MERRILL: Hi. This is Jeanne Merrill with
5 the California Climate and Agriculture Network. We're a
6 coalition of sustainable and organic agriculture
7 organizations. Thank you, Chair and Board Members.

8 We are very glad to see a stronger effort to
9 include natural and working lands in the Scoping Plan.
10 And we're glad to see in the scenarios modeling inclusion
11 of organic agriculture, farmland conservation, or avoided
12 conversion, healthy soils practices, grassland
13 restoration, alternative manure management, and more.

14 However, we are concerned that the lack of
15 inclusion of reduced or eliminated synthetic fertilizers
16 result in the modeling not telling us much about the
17 benefits of organic agriculture or healthy soils
18 practices. Moreover, based on the outcomes of the
19 scenarios, there's not a lot of detail on many of the
20 assumptions underlying the scenarios. For example, on
21 grasslands restoration, we know few details on what's
22 included there.

23 We know that climate modeling is very complex,
24 but the lack of soil carbon sequestration modeling and
25 non-croplands landscapes is a significant limitation of

1 the natural and working lands modeling.

2 We'd like to see more details on the modeling
3 assumptions and the underlying literature to better inform
4 us and others on -- on the modeling. And we would also
5 like to ensure that there's enough time for public input
6 to inform the Scoping Plan policy pathways as we pivot to
7 that collectively. The timeline is quite tight, but there
8 are many stakeholders who I think who robustly inform what
9 happens next on the natural and working lands side of the
10 Scoping Plan update.

11 Thank you.

12 MARIELA RUACHO: Hi. Can you hear me?

13 I believe that's a yes. Hi. Good afternoon. My
14 name is Mariela Ruacho from the American Lung Association.

15 We appreciate all the work staff has done on the
16 Scoping Plan. As CARB continues to analyze results from
17 modeling the four scenarios, we urge the Board to direct
18 staff to maximize the focus on programs that generate
19 direct emission reductions and health benefits. We see
20 the Scoping Plan as a roadmap for achieving critical
21 climate standards, but also a roadmap to healthier
22 communities, improve health outcomes, and less local
23 pollution.

24 We see these as working hand in hand and believe
25 that a focus in direction emission reduction measures is

1 the clearest pathway forward. Currently, there are still
2 questions about how some sectors will reduce emissions in
3 the scenarios reliant -- in the scenarios reliant on the
4 Cap-and-Trade Program and CCS. Again, we believe that the
5 most health protective plan will focus on direct emission
6 reductions and reductions in combustion as the primary
7 strategy.

8 We also encourage a strong focus on aligning this
9 plan with trackable measures for achieving healthier
10 communities, reductions in vehicles miles traveled, and a
11 better alignment of transportation funding with climate
12 standards. In addition -- in addition, CARB should
13 continuously report how they are responding to the EJAC
14 recommendations in the development and adoption on the
15 plan and throughout implementation. We look forward to
16 drafting plan -- plan -- the plan and working with staff
17 and Board members.

18 Thank you. Also, your audio is not coming
19 through very well. So just FYI. Thank you.

20 BOARD CLERK GARCIA:microphone. Please
21 unmute yourself and you can begin.

22 Virgil?

23 VIRGIL WELCH: Hi. Can you all hear me?

24 BOARD CLERK GARCIA: Yes, we can.

25 VIRGIL WELCH: Great. Thanks. Thank you very

1 much and good afternoon, Madam Chair and members of the
2 Board. My name is Virgil Welch. I'm with the California
3 Carbon Capture Coalition. The Coalition is a business and
4 labor organization working to create a comprehensive
5 policy framework to ensure that proven carbon capture
6 utilization and sequestration technologies can play a key
7 role in achievement of California's climate goals.

8 And I just wanted to acknowledge at the outset
9 the team at CARB and all the stakeholders and experts that
10 have been engaged in the Scoping Plan process. As you all
11 well know, this is an incredibly important part of your
12 work and it is one of the key opportunities for California
13 to demonstrate ongoing climate action leadership, both
14 inside and beyond our borders.

15 Carbon capture and sequestration technologies are
16 a necessary component of any successful strategy to meet
17 global, national, and California GHG reduction goals.
18 This is the conclusion of numerous expert analyses, as we
19 heard earlier, including the IPCC, the International
20 Energy Agency, here in California, analyses from places
21 like Lawrence Livermore and Stanford all demonstrate the
22 key role that CCS has to play in these efforts.

23 The math just simply does not work in terms of
24 achieving the emission reductions we're going to need to
25 meet scientifically-determined climate goals without CCS.

1 As the presentation today made clear, there are
2 significant emission reductions to be achieved across
3 multiple industries and sectors in California.

4 And for some of the veterans on the Board, you
5 will I'm sure recall that CCS has been acknowledged in a
6 number of previous scoping plans as a set of technologies
7 that would need to be considered in the future. Well,
8 that future is right now. As the Chair noted in her
9 comments at the outset, we have got to get going and we
10 need action across all sectors to scale down emissions.

11 So just as we are doing the whole range of other
12 technologies, we need a comprehensive framework to enable
13 CCS to play a meaningful role in cutting greenhouse gases
14 in California.

15 I'm sure most of you are all well aware of the
16 fact that the Biden Administration has prioritized CCS as
17 an important component of national efforts to decarbonize
18 and is providing some really significant financial
19 incentives as part of the President's Climate Action Plan.
20 So we have a tremendous opportunity to benefit from these
21 incentives in California, if we put in place mace the
22 right policy and regulatory framework.

23 And, of course, we need to account for the
24 significant economic and job benefits that CCS can provide
25 here, which are quite substantial in terms of both energy

1 cost savings --

2 BOARD CLERK GARCIA: ...are Ryan Kenny, Evan
3 Edgar, and Julia Levin.

4 Ryan, I have activated your microphone. Please
5 unmute yourself and you can begin.

6 RYAN KENNY: Great. Good afternoon, Board
7 member -- Board members and Chair Randolph. Thank you for
8 your time today. My name is Ryan Kenny with Clean Energy.
9 Our company is the nation's largest provider of renewable
10 natural gas transportation fuel. And we are here to help.
11 We are looking to help the state drive deep
12 decarbonization and help meet the 2045 carbon neutrality
13 goals then, if not sooner.

14 We encourage CARB to continue incentivizing the
15 production and use of low to carbon negative fuels and to
16 prioritize in the Scoping Plan the reduction of
17 short-lived climate pollutants. Given the state's climate
18 emergency, policy tools are needed to help drive deep
19 decarbonization of fuels today. Encouraging greater
20 development of such low carbon fuels today will ensure
21 that future clean transportation markets will be powered
22 by fuels that are in line with California's goals.

23 As you know, diesel-powered heavy-duty trucks are
24 the single largest source of black carbon, which is a
25 short-lived climate pollutant, and CO2. Low to carbon

1 negative fuels capture methane, another short-lived
2 climate pollutant, before being emitted into the
3 atmosphere, and they are used to help displace diesel in
4 the heavy-duty transportation sector.

5 Near-zero-emission vehicles are the only
6 transportation technology available today that delivers
7 less than zero emissions. The average carbon intensity of
8 all natural gas reported in the California LCFS is
9 negative at minus 28.17. No other transportation fuel in
10 California averaged zero or below. So this is a
11 significant solution to help driving deep decarbonization
12 and to help meet the carbon neutrality goals.

13 The LCFS is working and we encourage CARB to
14 again focus on the reduction of short-lived climate
15 pollutants and to incentivize the production and use of
16 low to carbon negative fuels.

17 Thank you.

18 BOARD CLERK GARCIA: ...please unmute yourself.

19 EVAN EDGAR: Chair Randolph and Board members.
20 My name is Evan Edgar of Edgar Associates representing the
21 refuse industry that is vested in anaerobic digestion
22 facilities coupled with near-zero NOx heavy-duty fleets
23 using in-state carbon negative RNG, while implementing SB
24 1382 to reduce methane in the near term and addressing
25 short-live climate pollutants, which CARB is not making a

1 priority in the modeling so far.

2 We filed a white paper today based upon European
3 studies regarding the carbon intensity of manufacturing
4 ZEV batteries, which is based on defensible science and
5 life cycle carbon accounting. CARB has a statutory
6 requirement to minimize the leakage, when considering the
7 Scoping Plan and not increase greenhouse gases on
8 non-California entities and that needs to be addressed.

9 With the CI of ZEV batteries, which are
10 manufacturing, which is 38 to 66 CI depending on the type
11 of ZEV battery. CARB's existing emission factor for ZEVs
12 used in California grid energy is plus 23 CI now and will
13 be for the next 23 years.

14 ZEVs are not zero emissions, but have a life
15 cycle carbon intensity of 62 to 90. CARB is picking ZEV
16 as a technology winner, while leaking emissions out of the
17 State. CARB has a statutory requirement to support cost
18 effective and flexible compliance when considering the
19 Scoping Plan for heavy-duty vehicles is not reflected in
20 the modeling so far while using ZEVs.

21 CARB should use -- should include ZEV battery
22 manufacturing in the Low Carbon Fuel Standard, since the
23 core tenets are based upon life-cycle analysis. The
24 modeling shows a tailpipe mentality where the ZEV is
25 wagging the dog.

1 Modeling the scenarios shows diesel for decades
2 and RNG for very few. There is adequate RNG supply for
3 the refuse heavy-duty fleet to utilize in-state RNG by
4 2025 with a current in-state RNG productions underway,
5 where there are many co-benefits. EJAC and CARB shall
6 want to decrease diesel use instead of phasing out the
7 near-zero NOx fleet on a carbon negative RNG platform that
8 has near-term reduction than can try -- criteria
9 pollutants benefits now.

10 We cannot wait for a perfect 2045 when the world
11 would be timed out on climate change according to the IPCC
12 and COP. The UN General Secretary says climate change
13 target is on life support and we are sleep walking into a
14 climate catastrophe. It's time to wake up and model the
15 RNG.

16 EJAC is meeting next week and will be briefed on
17 the force child labor in the Congo and a review of the
18 Amnesty International documents on the serious human
19 rights violations linked to -- linked to extraction of
20 minerals and used in ZEV batteries, plus all the
21 environmental degradation in many countries outside from
22 Africa to South -- South America.

23 Where is the environmental justice for all. I'll
24 be asking EJAC that question next Wednesday.

25 Thank you very much.

1 BOARD CLERK GARCIA: ...moment to test my audio.

2 Can you hear me, Evan?

3 EVAN EDGAR: Yes, I can hear.

4 BOARD CLERK GARCIA: Great. Thank you.

5 Okay. Julia, I have activated your microphone.

6 Please unmute yourself and you can begin.

7 JULIA LEVIN: Good afternoon. Julia Levin with
8 the Bioenergy Association of California.

9 I really want to thank the Air Board for this
10 focus on reaching carbon neutrality by mid-century, as
11 well as the new addition of really fully incorporating
12 natural and working lands into the main body of the
13 Scoping Plan itself, instead of treating it as sort of a
14 side or separate issue as past Scoping Plans have done.

15 Having said that, we do have a couple of concerns
16 and recommendations for the Scoping Plan. In particular,
17 we're very concerned about the sort of broad use of
18 different technologies or fuels as though they are all
19 equivalent in terms of life cycle carbon emissions.

20 For example, biofuels can have orders of
21 magnitude different life cycle carbon intensities from
22 positive -- kind of high positive to several hundred --
23 negative several hundred on a life-cycle basis. The same
24 is true of hydrogen. The same is true of electricity.
25 The same is true of zero-emission vehicles. So we need to

1 look all technologies, fuels, and other solutions on a
2 life-cycle basis or we are not going to get to a
3 defensible, actionable plan that really will meet our
4 climate requirements.

5 Our second concern is while we appreciate the
6 conversation round carbon capture and storage and direct
7 air capture, we think there needs to be a more targeted
8 focus on opportunities for negative emissions, because as
9 Virgil and other speakers have said, we know we're going
10 to need negative emissions to balance out to net zero.
11 That's not in order to continue fossil fuel use, but even
12 if we eliminate all fossil fuels, there will still be
13 emissions from other sectors and we need to offset those
14 with carbon negative emissions.

15 My third point is on slide 15 I could not
16 understand why, with a 75 percent waste diversion
17 requirement in California, slide 15 shows no greenhouse
18 gas reductions from organic waste between now and 2045.

19 I realized after looking at the slide for a long
20 time, that the reason is that that slide, and it turns out
21 most of the analysis, is looking at climate pollutants on
22 a hundred year global warming potential. That doesn't
23 make any sense for a plan that is intended to achieve
24 carbon neutrality in just over 20 years.

25 So I really urge the Air Board to reassess both

1 emissions and potential for reductions based on a 20-year
2 global warming potential. Do anything else makes no sense
3 in a plan that, you know, sets a goal for 2045. It also
4 really devalues the climate forcing impact of short-lived
5 climate pollutants and the immediate climate benefit of
6 eliminating short-lived climate pollutant emissions.

7 My last point is there's really no discussion
8 about costs. And we know that there is a very wide range
9 of costs for different reduction strategies, and
10 technologies, and fuels. And we cannot adopt a plan that
11 doesn't assess the cost effectiveness of different
12 technologies and choices.

13 Thank you.

14 CHAIR RANDOLPH: Thank you. I am going to be
15 closing the queue at 3:22. So if you want to speak and
16 have not yet placed yourself in the queue by raising your
17 hand or dialing star nine, you need to do so before 3:22.

18 BOARD CLERK GARCIA: Thank you. Our next three
19 commenters will be Mikhael Skvarla, Steve Jepsen, and
20 George Peridas.

21 Mikhael, I've activated your microphone. Please
22 unmute yourself and begin.

23 MIKHAEL SKVARLA: Yeah. Mikhael Skvarla with the
24 Gualco Group here on behalf of the California Council for
25 Environmental and Economic Balance. CCEEB would like to

1 thank ARB staff, the Board members, modelers, and other
2 stakeholders who have dedicated substantial time through
3 these workshops and comment periods to date.

4 Carbon neutrality is an important pursuit
5 environmentally and has major implications for all
6 Californians and their economic prosperity.

7 Moreover, what we do globally -- or what we do
8 matters globally, if it can be replicated in other states,
9 regions, and countries. There should be an openness and
10 an optimism to any new viable solutions that move us
11 towards our goals allowing for innovation.

12 It's important to note that we do not yet have
13 the data, inputs, assumptions, like technology uptake and
14 other pertinent information to review these initial
15 results. Additionally, PATHWAYS is not an optimization
16 model, so these initial results are ambitious at best, and
17 not a complete picture. We look forward to the disclosure
18 of these technical documents in April as staff has
19 indicated. This will provide us an opportunity to fully
20 analyze the scenarios and model results to date.

21 However, even with daylighting of the PATHWAYS
22 inputs, we want to caution that modeling is not precise.
23 It is a -- at this points, it's simply showing an
24 ambitious picture absent the economic data and impacts.
25 The cost, affordability, consumer adoption, jobs impacts,

1 and other considerations must be considered in the
2 forthcoming economic modeling that will feed into the
3 Draft Scoping Plan.

4 As Secretary Blumenfeld stated, it is important
5 to keep all the tools on the table to provide for the
6 widest set of options for decarbonization. The future is
7 unpredictable and we are currently living the ever present
8 history of the future.

9 Current day solutions may not be sufficient to
10 achieve our end goals, so policies that enable innovation
11 and flexibility like the Low Carbon Fuel Standard and
12 Cap-and-Trade are incredibly important.

13 Finally, the energy system of the future relies
14 on upfitting, upgrading, and expanding clean and renewable
15 energy production, both electric and molecular. To
16 achieve our decarbonization goals, we need to build our
17 way to carbon neutrality, meaning that beyond capital,
18 permitting is a major barrier to achieving our goals. The
19 State should take action to enable rapid build-out of
20 decarbonization projects and low carbon technologies.
21 CCEEB looks forward to the opportunity to continue to
22 review, and comment, and provide feedback. And we look
23 forward to the data and the cost assumptions as we move
24 toward. Thank you.

25 BOARD CLERK GARCIA: Thank you.

1 Steve, I have activated our microphone. Please
2 unmute yourself and begin.

3 STEVE JEPSEN: Hello, Chair Randolph and members
4 of the Board. This is Steve Jepsen, the Executive
5 Director for the Southern California Alliance of Publicly
6 Owned Treatment Works, or SCAP. We represent over 80
7 public water, wastewater, and recycled water agencies in
8 Southern California.

9 Wastewater treatment plants generate a non-fossil
10 biogas as part of the process of cleaning the public's
11 wastewater to protect public health and the environment.
12 State greenhouse gas reduction policies, such as SB 1383,
13 will divert food waste away from landfills to existing
14 waste water treatment plants located in all types of
15 communities. This will significantly increase the amount
16 of waste derived non-fossil biogas generated.

17 SB 1383 also requires the diversion of wastewater
18 generated biosolids from landfills, which will result in
19 more beneficial land application of biosolids in the
20 state, which also sequesters carbon and improves soil
21 water holding capacity.

22 The wastewater sector has a unique opportunity to
23 use wastewater derived biogas fueled trucks and equipment
24 for managing the society's wastewater, food waste, and
25 biosolids in a carbon neutral, even approaching carbon

1 negative scenario.

2 We need reliable homes for this wastewater
3 derived biogas to be resilient for the public. Using it
4 as a low carbon renewable fuel to power our essential
5 public service maintenance and emergency equipment will
6 expedite the transition from diesel-powered trucks.

7 The wastewater derived renewable gas clean
8 engines are currently available and in some cases already
9 in use, whereas zero-emission equipment are not available
10 for our sector, and based on communication with equipment
11 suppliers not feasible with current technologies. We are
12 not opposed to zero-emission vehicles, where appropriate
13 and available, and many of our agencies already have them
14 in their fleets.

15 In summary, the wastewater sector has a
16 non-fossil renewable fuel source derived from society's
17 waste that cannot be turned off. Engines and our
18 specialty equipment that can use this fuel already exist.
19 Embracing this non-fossil renewable fuel will expedite
20 carbon neutrality while getting diesel trucks off the
21 road, allowing the wastewater sector to continue our
22 emission -- our mission of protecting public health and
23 be -- and to be consistent with federal Clean Air Act
24 requirements.

25 This approach is consistent with the AB 32

1 Climate Change Scoping Plan statutory requirements to
2 support cost effective and flexible compliance.

3 Thank you for the opportunity to comment today.

4 BOARD CLERK GARCIA: George, I have activated
5 your microphone. Please unmute yourself and begin.

6 GEORGE PERIDAS: Great. Thank you. Can you hear
7 me okay?

8 BOARD CLERK GARCIA: Yes, we can.

9 GEORGE PERIDAS: Thanks. Thanks. Chair
10 Randolph, members of the Board. Thank you for the
11 opportunity to comment today. My name is George Peridas
12 from Lawrence Livermore National Laboratory.

13 Our job is to solve hard problems and represent
14 science. We do not stand to profit from any climate
15 solution and we don't have any dog in the fight, except
16 helping to solve climate change.

17 Today, I'm compelled to comment on what appears
18 to be a point of contention, the use of carbon removal
19 technologies. As with climate science itself, the
20 scientific community is overwhelmingly united in believing
21 that we must capture CO2 and put it back where it came
22 from, and that's deep underground. Our emission levels
23 and the levels of CO2 in the atmosphere are simple too
24 great, to high at this point. This applies to the globe,
25 to the nation, and to California specifically.

1 Technological carbon removal does not need to be
2 the star player in this game, but nonetheless, it is a
3 necessary and important player if we are to achieve carbon
4 neutrality.

5 Fortunately, this is a proven concept and family
6 of technologies. Nature has stored CO2 securely over
7 hundreds of millions of years, well before we thought of
8 doing it ourselves. We have over four and a half thousand
9 miles of CO2 pipeline in the U.S. Tens of projects that
10 capture transport and store CO2 are operating worldwide
11 with an excellent track record.

12 In addition, California has the strictest rules
13 in the world to control the practice with brand new
14 regulations dating from the last few years that were
15 crafted with the failings of oil and gas regulation in
16 mind and with an unprecedented level of scrutiny.

17 The U.S. has safely stored 14 million tons of CO2
18 underground in research programs, run specifically to test
19 geologic storage. Returning CO2 deep underground is not
20 only necessary for carbon neutrality but can serve several
21 of other California's goals. It can present -- prevent
22 catastrophic wildfires, it can create rural economic
23 opportunities, maintain a healthy workforce, improve air
24 quality, and generate benefits for local communities.

25 We firmly believe that we can and have no choice

1 but to make these projects work both locally and for our
2 global climate emergency.

3 Thank you very much for the time.

4 BOARD CLERK GARCIA: ...your microphone. Please
5 unmute yourself and you can begin.

6 Paul Mason.

7 PAUL MASON: Oh, hi. Sorry. It is hard to hear
8 the clerk call the names that -- the volume on that mic is
9 lower than all the rest of them. But my name is Paul
10 Mason. I am with the Pacific Forest Trust. And thank you
11 Chair Randolph and members for the opportunity to make a
12 few comments today.

13 I'll be really brief. We really appreciate the
14 much more substantial focus on natural and working lands
15 in this Scoping Plan compared to the previous ones. The
16 modeling that was described today and that we've all been
17 engaged with over the last, oh, many months is very
18 ambitious. Especially for the forest sector, it's going
19 to be hard to really know what that means until we see the
20 modeling results out to 2100, because over these next 20
21 years, we're going to create a lot of emissions under all
22 circumstance by thinning, and prescribed fire. And
23 theoretically we would see more of those longer term
24 benefits out in the second half of the century. So seeing
25 that information as well as the benefits to fire behavior,

1 water quality, et cetera, would be really interesting.

2 That said, I think it will be important for both
3 the forest and really all of the -- especially the natural
4 and working lands modeling that's so complex is to realize
5 it will be informative and sort of directional. But all
6 modeling has limitations and we'll need to combine what
7 we're seeing in the modeling with what we also know to be
8 true. And so that's going to need to get reflected in the
9 way the Scoping Plan is actually presented as this guiding
10 document.

11 And one of the things that we know to be true and
12 is going to be very important on our natural landscapes is
13 our interventions need to be driven by restoring an
14 ecological resilience that's going to be stable over time
15 and not just on maximizing carbon. And I appreciate the
16 staff calling this out in the presentations, but I think
17 it's going to be -- need to be sort of the driving
18 consideration to both trying to restore more forest
19 structure, but then also to maintain that and let it
20 develop over time. We need to make sure that we're not,
21 you know, doing good things now only to see the forest
22 clear cut in 20 years and be right back on to sort of
23 dense, fire prone, even-aged condition. We need to be
24 changing some of this management, so that we're restoring
25 the large fire resilient trees on the landscape as sort of

1 a driving consideration for how we get to a more fire
2 resilient, climate resilient condition on our forested
3 landscapes.

4 So really appreciate the moment to talk and thank
5 you very much.

6 BOARD CLERK GARCIA: Thank you, Paul.

7 And I switched microphones. Can you hear me
8 better now?

9 PAUL MASON: It's a little bit -- yeah, it is
10 better. Just make sure you're holding it close.

11 BOARD CLERK GARCIA: Okay. Thank you.

12 Our next three commenters will be Graham Noyes,
13 Sarah Deslauriers, and a phone number ending in 180.

14 Graham, I have activated your microphone. Please
15 unmute yourself and you can begin.

16 GRAHAM NOYES: Thank you. Confirming the audio.

17 BOARD CLERK GARCIA: Yes, we can hear you.
18 Can you hear me?

19 GRAHAM NOYES: Chair Randolph, members of the
20 Board. My name is Graham Noyes. Thank you for the
21 opportunity to provide comments today. I'm the Executive
22 Director of the Low Carbon Fuels Coalition. Our mission
23 is to support an expansion of low carbon fuel policies.

24 And what I'd like to share with the Board today
25 are what I see as some untapped opportunities to achieve

1 the targets faster. As other commenters have pointed out,
2 California has very aggressive goals in this sector and so
3 really recommend the use of all available tools, and
4 particularly tools that have proven well over the
5 experience we've had to date.

6 Regarding Slide 8 in particular, it shows
7 substantial use of fossil fuels all the way out to 2045.
8 By contrast, the Institute for Transportation Studies
9 Report, Driving California's Transportation Emissions to
10 zero shows a path to zero use of fossil fuels by 2045.
11 And that report was commissioned specifically to look for
12 strategies to achieve carbon neutrality consistent with
13 Executive Order B-55-18. So really recommend the
14 integration of that report to the greatest extent possible
15 in ts approaches.

16 Also on that same slide, we see under all
17 scenarios essentially a 20 percent reduction in carbon
18 intensity by 2030 and under Alternative 2, a 25 percent
19 reduction but not until 2035. And it is perplexing to me
20 why there aren't more aggressive numbers there. We
21 already have a 20 percent reduction within the LCFS
22 Program as it exists today. This is a program that has
23 gained State, national, and international recognition, and
24 is being replicated in other jurisdictions. We've seen
25 over 75 million metric tons of greenhouse gas reduction

1 and \$10 billion in credit value. And it's made California
2 the world leader in attracting low carbon fuels and low
3 carbon fuel technologies.

4 But just this past week, Oregon with their clean
5 fuels program surpassed our program in credit value. Our
6 lamb has lapsed from a \$200 credit value down to 120. And
7 the Oregon program by contrast is responding to an
8 Executive Order to really maximize the reductions. And I
9 understand that the LCFS is a separate process than this
10 one, but I think the Scoping Plan can take advantage of
11 the proven capabilities of this LCFS Program, and also
12 needs to send a signal to the market to grow low carbon
13 fuel production and expansion rather than shrink it, which
14 is the signal that the market is starting to get.

15 Thank you for the opportunity to provide these
16 comments.

17 BOARD CLERK GARCIA: ...microphone phone. Please
18 unmute yourself and you can begin.

19 SARAH DESLAURIERS: Can you hear me okay?

20 BOARD CLERK GARCIA: Yes, we can.

21 SARAH DESLAURIERS: Excellent. Thank you. Good
22 afternoon, Chair Randolph and Board members. My name is
23 Sarah Deslauriers. And I am the Climate Change Program
24 Manager for the California Association of Sanitation
25 Agencies, or CASA, and we represent over 90 percent of the

1 sewer population across the state. CASA is an association
2 of local agencies and we do perform essential public
3 services of cleaning wastewater to protect public health
4 and the environment, but while also advancing community
5 resilience through the recovery of renewable resources,
6 including water, energy or fuel, biosolids, nutrients.

7 Our members full support and are focused on
8 helping the State achieve carbon neutrality. We believe
9 the use of renewable biogas as transportation fuel, as
10 well as biosolids as an organic soil amendment derived
11 from wastewater treatment plants are critical paths in
12 achieving this goal, while reliably maintaining these
13 essential public services for all communities.

14 Anaerobic digestion is a key component of the
15 solids treatment process at wastewater treatment plants
16 across California that produces a renewable biogas or
17 digester gas. By capturing this resource, we avoid
18 venting it to the atmosphere and beneficially using it as
19 a transportation fuel, or for onsite heat and power
20 productions, or for pipeline injection.

21 Digestion also produces a beneficial organic
22 residual referred to as biosolids, which can be recycled
23 back to agricultural or natural and working lands as a
24 soil amendment to displace synthetic fertilizer.

25 Biosolids also sequester carbon, improve soil

1 health, which in turn improves water holding capacity, and
2 then increases crop yields, all of which are targeted by
3 the natural and working land scenarios, and we will be
4 sharing data, which support these valuations, and also
5 begin to address some of those noted limitations, like not
6 accounting for offsetting synthetic fertilizer, and not
7 including carbon sequestration accomplished on croplands.

8 We are concerned about the disconnect between the
9 this Scoping Plan scenarios to achieve carbon neutrality,
10 the developing advanced clean vehicle regulatory language
11 or fleet regulatory language, and the Clean Air Act
12 timeline requirements that are in place to achieve NOx and
13 ozone reductions in nonattainment zones.

14 This is especially concerning given the limited
15 available of heavy-duty zero-emission vehicle technology
16 for specialty vacuum and jetter vehicles that we need for
17 our sewers as Steve Jepsen mentioned, and the fact that
18 near-zero-emission vehicles are available today to provide
19 continued resilience while achieving NOx reductions.

20 Our members have already been required to invest
21 in compressed natural gas vehicles fueled by renewable
22 biomethane, as well as the infrastructure by various
23 regulatory requirements, including South Coast LEV 96.
24 And CNG is now showing in all Scoping Plan scenarios for
25 heavy-duty vehicles, but the definition of NZEVs in the

1 Draft ACV does not support that.

2 We urge CARB to coordinate across these programs
3 and we thank you for the opportunity to comment today.
4 And we will be submitting more detailed written comments
5 for your consideration.

6 Thank you.

7 BOARD CLERK GARCIA: ...so the phone number
8 ending in 180. We'll hear from Gary Hughes, John Larrea,
9 and Charles Davidson.

10 Phone number ending in 180, I have activated your
11 microphone. Please state your name for the record.

12 JON COSTANTINO: Hello. Can you hear me?

13 BOARD CLERK GARCIA: Yes.

14 JON COSTANTINO: Thank you. This is Jon
15 Costantino. Good afternoon, Chairman Randolph, Board
16 members, and CARB staff. Im speaking today on behalf of a
17 number of clients that are focused on reducing their
18 carbon footprint throughout the different sectors of the
19 economy. We appreciate the ability to comment and look
20 forward to more important work that's going to happen
21 moving ahead.

22 The recent modeling results workshop provided a
23 partial compass where the landmark policy document could
24 go. Today's discussion will also help direct staff in
25 preparing that document. While we need to make sure we

1 take into account the public health and economic impacts
2 of these scenarios.

3 Some of the important aspects of carbon
4 neutrality were highlighted today and last week. The fact
5 that innovation and investment are the keys to success.
6 CARB's historical policy of all good ideas should be
7 welcomed should be retained from earlier Scoping Plan
8 efforts.

9 California has a whole lot of momentum going on
10 right now to reduce emissions. As we sit here today,
11 refineries are being converted, lower carbon biofuels are
12 expanding, CCS project are within days of initial
13 injection under the LCFS, hydrogen is getting closer,
14 methane capture is accelerating, and wholesale electricity
15 decisions are being driven by the price in carbon. New
16 technologies to reduce industrial heat are coming this
17 summer and so much more.

18 That's why isn't important for the Board to
19 direct staff to continue with an open and public process
20 to develop a broad inclusive plan that takes a realistic
21 view of innovation and investment opportunities, and that
22 the obstacles that needed -- that are needed to overcome
23 and achieves the success include rising energy costs, our
24 notorious permitting requirements, and the capital needs
25 and the time to bring this all together.

1 The plan has been described as -- the plan has
2 been described by staff as being an endpoint document. If
3 that is true, then it is important that the market signals
4 drive the path forward, rather than CARB drawing a line on
5 the road. The most efficient, innovative, and successful
6 strategies may not even currently be on CARB's radar. The
7 path to success may look much different in the rearview
8 mirror in a few years than out the windshield today.

9 So I look forward to the -- continuing the public
10 process and thank you for your time.

11 BOARD CLERK GARCIA: Thank you.

12 Gary, I have activated your microphone. Please
13 unmute and begin.

14 GARY HUGHES: Thank you. Good afternoon, Chair
15 Randolph. Thank you, members of the Board for this
16 opportunity to speak. My name is Gary Hughes and I work
17 with the international organization Biofuelwatch. While
18 we continue to challenge the exaggerated climate benefits
19 attributed to the expansion of refining and use of high
20 deforestation risk liquid biofuels in the state, and while
21 we implore the Board to fully consider eliminating the use
22 of food as feedstocks for making fuel in a time of an
23 intensifying global food crisis, my comment today is
24 focused on the risks embedded in the reliance on unproven
25 and dangerous carbon dioxide removal technologies as seen

1 in the modeling that is currently central to the
2 development of the Scoping Plan.

3 Perhaps a bit of history with the fossil fuel
4 industry roots of direct air capture and the links with
5 campaigns of climate disinformation will assist in
6 illuminating this concern.

7 It was back in 1999 that a group of scholars
8 wrote the first known academic paper advocating for direct
9 air capture published on behalf of Los Alamos National
10 Laboratory. One of those co-authors was a former
11 scientist for Exxon who wrote, "Direct air capture
12 completely avoids a restructuring of today's
13 infrastructure. Carbon dioxide extraction from air would
14 allow the continued use of carbon based fuels".

15 Later the fossil fuel funded think tank American
16 Enterprise Institute created the Geoengineering Project,
17 with the head of the project co-writing a paper in 2009
18 advocating for the scaling up of direct air capture. The
19 American Enterprise Institute is well known for climate
20 disinformation and climate denial. The 2009 paper was
21 actually published by the Copenhagen Consensus Center, a
22 group infamous for its climate denialism and efforts to
23 delay real climate action.

24 We must ask how is it that the unicorn of direct
25 air capture, once the geoengineering crown jewel of the

1 climate denial machine, is now promoted as a central piece
2 of the climate policy puzzle in California? This history
3 of fossil fuel industry climate disinformation is not
4 irrelevant. And we hope that understanding these dynamics
5 around the promotion of direct air capture as a tactic of
6 climate deception and confusion campaigns will empower
7 members of the Board to direct the staff to correct course
8 on the Scoping Plan by elevating modeling of alternatives
9 that explicitly acknowledge that reliance on large-scale
10 carbon dioxide removal, as the IPCC makes abundantly clear
11 threatens to result in irreversible harm to water
12 resources and biodiversity, as well as posing severe risks
13 to social justice and human rights, while failing to
14 reduce emissions as promised. We need a course
15 correction.

16 Thank you for your attention to this comment.

17 BOARD CLERK GARCIA: Thank you.

18 John, I have activated your microphone. Please
19 unmute and begin.

20 JOHN LARREA: Thank you. Good afternoon, Chair
21 Randolph and Board members. I am John Larrea,
22 representing the California League of Food Producers. The
23 League represents industrial food processors with
24 operations in California, many of which are subject to the
25 Cap-and-Trade.

1 First, I'm pleased to see that all four scenarios
2 will apparently allow us to reach the 2030 goals, though
3 at what cost is still a question. The League will
4 continue to engage with staff to ensure the most
5 reasonable, cost-effective, and technologically feasible
6 scenarios recommended to this Board for adoption.

7 But, speaking to the whole of the analysis in
8 this presentation, I'm again disappointed to see that not
9 all available options are being considered, for instance,
10 the role of nuclear power. I mean you are considering the
11 complete elimination of combustion one of the scenarios.
12 For a hard-to-decarbonize sector like food processing,
13 that represents a huge problem and there must be some
14 viable alternatives available that make some sense for our
15 industry, whether in the area of combustion or energy
16 generation.

17 Now, please don't take this as an endorsement of
18 nuclear power, but if we are indeed in a climate crisis
19 requiring immediate action, as we are reminded of on a
20 daily basis, why are you not considering all options for
21 the rapid reduction of emissions.

22 Additionally, I'd like to mention that no matter
23 which scenario is ultimately approved by this Board,
24 generous and well-targeted incentives will continue to be
25 a fundamental necessity to achieving any of the State's

1 emissions reductions goals in the industrial sector.

2 I have great respect for the work and the effort
3 that the Board, and staff, and other experts have put
4 forth to date. Yet, I can't help but think that ignoring
5 the role that options, such as nuclear power, might play
6 in State's efforts to electrify or decarbonize, undermines
7 the credibility of these efforts to some degree.

8 I hope you, as Board members, agree that CARB
9 should make the effort, no matter how politically
10 unpopular it may seem, to be open to all options and to
11 insist that such options are expertly analyzed and
12 included in the Scoping Plan recommendation.

13 Thank you.

14 BOARD CLERK GARCIA: Thank you.

15 After Charles, our remaining speakers will be
16 Sarah Aird, Robert Spiegel, Steven Karen Smith, Alison
17 Torres and Julia May.

18 Okay. Charles, I have activated your microphone.
19 Please unmute and begin.

20 CHARLES DAVIDSON: Greetings, Chair Randolph and
21 Board. Charles Davidson here. Thank you for letting me
22 speak. I live in Hercules near the Phillips 66 refinery
23 in Contra Costa County, which is planning on being the
24 world's largest renewable diesel biofuels refinery in the
25 world and about 12 miles away from the Marathon Refinery,

1 which is planning on being the world's second largest
2 biofuels refinery.

3 Despite their renewability moniker, let us be
4 clear, making refinery biodiesel, or so-called renewable
5 diesel, from hydrogenated vegetable oils and animal fats
6 are as energy consuming and carbon intensive to refine as
7 the world's dirtiest, most dense, and highest sulfur crude
8 oils. This is because fat and oil molecules are
9 triglycerides, like the kind that your doctor measures,
10 and they counterintuitively are far more difficult to
11 crack than petroleum oils.

12 Marathon proudly claims a reduction in carbon
13 dioxide greenhouse gases of 60 percent in their renewable
14 diesel project. However, that 60 percent CO2 reduction
15 comes entirely from the 60 percent smaller daily
16 throughput specified by the project and is entirely not
17 from the decreased carbon intensity of the renewable
18 diesel itself.

19 Similar for Phillips 66, the facts belie the
20 case. Despite the shimmer of Marathon's decrease in
21 throughput, a simple look at the 42 percent increase in
22 hydrogen made by fossil fuels, combined with our
23 simultaneous decrease throughput results in a 32 percent
24 per barrel increase in carbon intensity. Similarly,
25 Phillips will be producing 37 percent more hydrogen than

1 with petroleum refining and a 36 percent increase in per
2 barrel carbon intensity.

3 So what we have proposed before us today in
4 California is a very expensive, publicly funded,
5 unscientific, and entirely CARB-facilitated carbon bomb
6 falsely based on their so-called renewable diesel being a
7 low carbon fuel.

8 Lastly, refinery biodiesel is being funded to the
9 tune of up to \$3.32 per gallon according to Stratas
10 Advisors. That could amount to \$5 billion yearly given to
11 Phillips 66 and Marathon under false pretenses, which
12 flies in the face of a massive increase in per barrel
13 carbon intensity and global food security.

14 BOARD CLERK GARCIA: Sarah, I have activated your
15 microphone. Please unmute and begin.

16 SARAH AIRD: Good afternoon to Chair Randolph and
17 CARB Board members, CARB staff, EJAC members and the
18 general public. I appreciate the opportunity to comment.
19 My name is Sarah Aird and I'm Co-Director of the statewide
20 coalition Californians for Pesticide Reform, which is made
21 up of more than 200 organizations across the state and is
22 deeply engaged with the low-income communities of color
23 that are most impacted by agricultural emissions in eight
24 of the largest agricultural counties in California.

25 First, in addition to a climate crisis, we also

1 have an environmental justice public health crisis in
2 low-income communities of color and agricultural areas in
3 California. The Scoping Plan is supposed to be addressing
4 and centering equity and public health in the Scoping
5 Plan, but has not adequately done so to date. To meet its
6 equity and health goals, the Scoping Plan must focus on
7 direct emissions reductions and not on new unproven carbon
8 capture sequestration technologies.

9 To meet climate, health, and equity goals, the
10 Scoping Plan must include strategies that support natural
11 carbon sequestration, but not to counter emission
12 reductions. They are a critical add-on to emission
13 reduction targets. In addition, it is critical that
14 public health and equity impacts for all proposed
15 agricultural management strategies are assessed, and are
16 used as limiting parameters for determining acceptable
17 strategies to be supported in the Scoping Plan. To date,
18 it seems that while there's been some attention to the
19 expected benefits of proposed strategies, there hasn't
20 been an assessment of potential harms posed by proposed
21 management strategies.

22 Second, we very much appreciate that organic
23 farming has been included in the modeling, the first time
24 ever, but want to urge that the current modeling scenarios
25 are not ambitious enough and should be aiming for 30

1 percent acreage in organic farming by 2030, not by 2045.
2 That would translate into an organic acreage of roughly 75
3 to 80 percent by 2045.

4 And then it's frustrating to know that emerging
5 independent science is showing that CCS technologies are
6 not living up to the promised carbon sequestration
7 expectations. And yet, CCS technologies may have
8 significant harmful impacts on environmental justice
9 communities, but they are being included in all of the
10 modeling scenarios, while pesticide reduction strategies
11 are not being included, when we know that reductions of
12 pesticides, especially fumigants, will result in better
13 protection of healthy soils, which mean significantly
14 greater carbon sequestration, reduction of greenhouse gas
15 emissions, such as tropospheric ozone, recognized by the
16 Intergovernmental Panel on Climate Change as the third
17 most potent greenhouse gas, and nitrous oxide, 300 times
18 more potent than carbon dioxide from fields, which are
19 currently being largely ignored in the Scoping Plan draft.

20 These reductions also result in better protection
21 of community health, air quality, water quality,
22 biodiversity, and ecosystems. And it is for this reason
23 that we are calling on California to catch up with other
24 agricultural economies and adopt some ambitious pesticide
25 reduction targets, including setting a goal of 50 percent

1 reduction of pesticides by 2030 and Setting a goal of 75
2 percent reduction of the most hazardous pesticides by
3 2030.

4 This may seem not feasible. It is feasible. The
5 European Union has already adopted similar targets and
6 it's time California catches up.

7 Thank you.

8 BOARD CLERK GARCIA: Thank you.

9 Robert, I have activated your microphone. Please
10 unmute and begin.

11 ROBERT SPIEGEL: Great. Thank you. Good
12 afternoon, Chair Randolph and members. Rob Spiegel,
13 Senior Policy Director with the California Manufacturers
14 and Technology Association, or CMTA.

15 To begin with, I'd like to extend a thank you to
16 agency staff for their continued commitment and engagement
17 with stakeholders throughout the Scoping plan update
18 process. It's foundational to the development of the
19 Scoping Plan and it is appreciated by CMTA and our
20 membership.

21 CMTA participated in the March 15th workshop and
22 we're currently conducting a thorough review of the E3
23 pathways and related alternatives. Our initial review of
24 the alternatives has raised some concerns however.

25 We recognize that pathways was not intended to

1 include an economic cost or a cost assessment, excuse me,
2 which unfortunately though is critical in determining
3 feasibility and cost effectiveness of the strategies.

4 For business and industry, we have consistently
5 responded to the call for carbon emission reductions by
6 making the significant investments of both human and
7 financial capital to help the State achieve its climate
8 policies.

9 What may be required for us in the future is
10 critical to our industry and business financial planning
11 efforts. Now, across all of the alternatives, there are
12 significant challenges associated with future energy --
13 energy reliability, cost containment, matters of equity,
14 workforce consideration, and varying degrees of reliance
15 on technologies that while promising are not deployable to
16 certain sectors of my industry.

17 As it relates to the energy and electricity
18 section specifically, an increase in electric loads by 30
19 to 80 percent by 2035 and 60 to 90 percent by 2045 will
20 require significant capital and infrastructure expansion
21 efforts.

22 It's also important to note that manufacturing
23 undergirds these key components that are crucial, the
24 cement, steel, plastics, and glass will still be required.
25 These industries play a critical role in the development

1 of not only the electrical infrastructure, but in the role
2 of creating zero-emission vehicles, the new appliances,
3 the energy efficiency upgrades related to building
4 decarbonization, and providing the technological
5 innovation to meet the emission goals.

6 We're pleased to see a role for carbon removal
7 and other technologies for hard to decarbonize sectors.
8 And we continue to look forward to the future developments
9 and discussions surrounding the Scoping Plan.

10 Appreciate the opportunity to comment this
11 afternoon. Thank you.

12 BOARD CLERK GARCIA: Our next speaker is listed
13 as Steven Karen Smith. I have activated your microphone.
14 Please unmute and begin.

15 STEVEN SMITH: Thank you, Madam Chair and members
16 of the Board. My name is Steve Smith and I am with
17 Phillips 66. So we appreciate and thank you for the
18 opportunity to comment today.

19 And I'd also like to just thank CARB staff. I --
20 we at Phillips recognize that this Scoping Plan update is
21 a major endeavor with significant impacts, and
22 ramifications, and benefits for the State, and we look
23 forward to providing comments along the way.

24 So as Phillips, we do operate three petroleum
25 refineries in California. That do supply fuels, mostly

1 under the '76 brand, including gasoline diesel, jet fuel,
2 marine fuels, and more recently renewable diesel fuel.

3 We do recognize that the health and the economic
4 modeling results are still to come from UC Irvine and
5 Rhodium, but we do see certain pathways really starting to
6 take form in the modeling output, especially in
7 Alternatives 3 and 4. And I'll just touch on a few of
8 those.

9 First, you know, I think we are seeing an ongoing
10 need for a certain amount of liquid fuels. As I've -- as
11 you've heard from a few speakers, we at Phillips are
12 pursuing the production of renewable lower carbon fuels.
13 And today, we do produce and deliver renewable diesel for
14 California consumers. We are planning to discontinue
15 processing crude oil at our San Francisco site within the
16 next two years, and really provide lower carbon renewable
17 diesel for long-term, long-haul trucking, railroad
18 applications, marine applications that are appropriate for
19 liquid fuel.

20 And we're also optimistic that we'll be making
21 some sustainable aviation fuel off of that project in the
22 future. So I think in the Scoping Plan we're just looking
23 forward to seeing that role for biofuels, for certain
24 applications spelled out with clarity in the Scoping Plan.

25 I guess other stories we're starting to see

1 develop. We do acknowledge the role for geologic carbon
2 storage. We've heard a lot about that today, but we, I
3 think, do anchor in with CARB's view and Lawrence
4 Livermore's view that there is a role for geologic carbon
5 storage.

6 And finally, hydrogen. I think that there is a
7 future for hydrogen in the state. We haven't heard too
8 much about that today, but we see a strong role for
9 hydrogen and hope to be part of that picture.

10 So lastly, a few principles for us to all think
11 about as we move forward that we would encourage. One is
12 to allow innovation, set emission standards but ideally
13 without technology man -- mandates, dig deep on cost
14 effectiveness, and consider aggressive but realistic
15 timelines.

16 Thank you.

17 BOARD CLERK GARCIA: Thank you.

18 Alison, I have activated your microphone. Please
19 you unmute and you can begin.

20 ALISON TORRES: Good afternoon, Madam Chair and
21 Board members. My name is Alison Torres with the Eastern
22 Municipal Water District. EMWD is a water, wastewater,
23 and recycled water agency located in Southwest Riverside
24 County. We provide essential services to a 555 square
25 mile service area and serve more than 827,000 people.

1 EMWD operates four wastewater plants that
2 currently treat a combined total of about 46 million
3 gallons per day. I do appreciate the opportunity to
4 comment today and the work that staff have put into the
5 Climate Change Scoping Plan scenarios presented.

6 As a provider of essential public services, our
7 facilities collect and treat wastewater from our
8 surrounding communities. And a natural by-product of this
9 treatment process is wastewater biogas. This is a
10 non-fossil, renewable, low carbon fuel and it needs to go
11 somewhere.

12 Beneficial use as a low carbon non-fossil fuel is
13 a technology available today. And it is critical that a
14 clear, viable market and pathway for the use of this
15 biogas is maintained. We are concerned that there is a
16 disconnect between the Scoping Plan scenarios to achieve
17 carbon neutrality by 2035 and 2045, and the Clean Air Act
18 timeline requirements for NOx reductions and ozone
19 reductions in nonattainment zones. This is especially
20 concerning given the limited availability of heavy-duty
21 ZEV technology for specialty vehicles used in our industry
22 and the fact that near-zero-emission vehicles are
23 available today.

24 The use of renewable biogas as a transportation
25 fuel should be incentivized over the use of diesel while

1 the electric vehicle technology and infrastructure market
2 is developing.

3 I urge CARB staff to ensure coordination between
4 concurrent programs and strategies, such as the
5 short-lived climate pollutant reduction programs, Advanced
6 Clean Fleet Regulation, and State SIP in a way that
7 maintains a viable pathway for wastewater biogas.
8 Wastewater biogas provides opportunities for carbon
9 negative emissions. I also urge CARB staff to ensure that
10 the Scoping Plan scenario inputs account for the continued
11 generation and use of this POTW derived biogas. The
12 Scoping Plan update scenarios also need to acknowledge the
13 important role of the public wastewater sector in
14 achieving the organic waste diversion mandates in Senate
15 Bill 1383 and the use of this wastewater biogas in
16 near-zero-emission vehicles as a renewable transportation
17 fuel.

18 As a member of both CASA and SCAP, I'd like to
19 also echo EMWD's support of the comments made by those
20 associations. And I do commend CARB staff for the work
21 put into Scoping Plan update thus far, and I look forward
22 to the continued opportunity to participate in the
23 process.

24 Thank you very much.

25 BOARD CLERK GARCIA: Thank you.

1 Julia, I have activated your microphone. Please
2 unmute yourself and begin.

3 Julia, are you there?

4 JULIA MAY: Can you hear me now?

5 BOARD CLERK GARCIA: Yes, we can.

6 JULIA MAY: Thank you. Julia May, Senior
7 Scientist, Communities for a Better Environment, CBE --
8 she or they -- with our community members in Wilmington,
9 Southeast LA, Richmond, and East Oakland.

10 On a previous comment, we don't dispute that
11 there's so much carbon in the air that the world needs to
12 find effective ways to take it out of the air to avoid
13 catastrophic climate change. But that's very different
14 from what's presented in the modeling using carbon capture
15 as an excuse to allow big polluters like oil refineries to
16 continue to pollute.

17 CARB must make this distinction and start a plan
18 to phase out oil refineries by 2045. Starting a plan is
19 not a lot to ask for and is consistent with your long-term
20 zero-emission transportation goals. It makes no sense to
21 say there's too much carbon in the atmosphere, so
22 therefore we should allow refineries to continue
23 polluting, while we try to capture a fraction of their
24 continued emissions.

25 CCS cannot put a big dome over refineries. There

1 are hundreds of stacks, including massive boilers, and
2 heaters, and other combustion sources, plus thousands of
3 fugitive sources. If a silver bullet existed to fully
4 cover refinery emissions, air districts would have cleaned
5 up the toxics long ago. Please don't be fooled by
6 pie-in-the-sky assumptions. This is a delay tactic.

7 We just remind everyone that the Board's --
8 including the Board that previous attempts to avoid
9 addressing refineries failed. Specifically, Cap-and-Trade
10 did not work. Your inventory demonstrates this. The only
11 sector that made substantial cuts was the electricity
12 sector, due to the Renewable Portfolio Standard, not due
13 to Cap-and-Trade.

14 So market mechanisms failed, because they're
15 cheap by design. They'd have to be 10 to 100 times more
16 expensive to have an effect, which will not happen.
17 They're chosen because they are cheap.

18 The failure of the market mechanisms was known
19 before California adopted Cap-and-Trade. Let's not repeat
20 that kind of predictable failure by relying on CCF for --
21 CCS for oil refineries.

22 On a finer modeling point, we don't understand
23 why the modeling shows refinery emissions in the CCS
24 scenarios going down immediately starting in 2022, even
25 though CCS doesn't exist right now. CARB, I believe,

1 isn't planning to get this on all the refineries until
2 2030. So we need the detailed modeling assumptions. E3
3 did a great presenting the results, but we request even
4 draft versions of the detailed assumptions not
5 immediately, as soon as possible.

6 We have the technology for a reasoned and just
7 transition out of fossil fuels by 2045. We must not delay
8 starting a detailed plan to phase out oil refineries and
9 their products.

10 Thanks.

11 BOARD CLERK GARCIA: Chair, that concludes the
12 list of commenters for this item.

13 CHAIR RANDOLPH: All right. Thank you. As this
14 is an informational item, there is no need to close the
15 record. So I will bring it back to the Board for
16 discussion.

17 Dr. Sperling.

18 BOARD MEMBER SPERLING: Thank you very much,
19 Chair Randolph. This has been a long but very fruitful
20 and useful exercise. And I do want to commend the staff.
21 They've done a great job putting together a lot of data,
22 models, getting a lot of input from communities, EJAC,
23 experts. And what's really admirable is they've started
24 with the science, with data, with research, and using
25 input to -- to frame it.

1 So what they've done, as you Chair Randolph said,
2 and as Richard Corey indicated, is articulated high-level
3 strategies for moving forward. And, you know, along those
4 lines, I do want to especially commend the leadership and
5 brilliance of Rajinder Sahota for leading this, because
6 she is the heart and soul of this initiative.

7 So I'm going to offer some insights. And I want
8 to articulate more succinctly what staff has been hinting
9 at and highlight some of the key next steps.

10 So I'd like to offer some -- some insights and
11 context. And that is that what we've heard here so far is
12 a modeling exercise, which shows if we really look at it
13 carefully, and do the analysis, and follow up on what --
14 what's being framed, it clearly demonstrates that it would
15 be hugely disruptive, hugely expensive to get carbon
16 neutrality by 2035. You know, any kind of reasonable
17 assessment would say 2040, 2045 is really as soon as we
18 can get there. And I'm going to say some more things
19 about why that's important insight.

20 Now, modeling is really important to identifying
21 the key strategies, but it's only a framework. And the
22 details that we follow up with are hugely important. And
23 they're hugely important for accomplishing our climate
24 goals and our health goals in the most economic and the
25 most effective way possible, and doing it in a way that

1 does -- doesn't harm overburdened communities, and ideally
2 makes these communities, actually all of our communities,
3 healthier, more affluent, and better served.

4 Okay. So what I mean by details to follow,
5 that's -- that's all the regulations and incentives that
6 this agency does, that this Board does, as well as others.
7 And as we've heard in the testimony, as we see in the
8 comments, and heard at the workshops, there are advocates
9 for many, many technologies, many, many different
10 practices, applied in many different ways.

11 Lesson learned. What we and the other agencies
12 need to do is adopt robust cost-effective policies. It
13 would be impossible to adopt regulations and policies for
14 every technology and every application. And I know the
15 staff fully understands and appreciates that, because
16 they're already swamped by all the different actions and
17 regulations that they're doing already.

18 But the good news is California and CARB, we're
19 on the right path. We're clearly on a path to massively
20 reduce greenhouse gases. We have -- we have put in place
21 over the last 15 years the most sophisticated, the most
22 robust, the most comprehensive set of policies in the
23 world on climate.

24 Now, that doesn't mean they're the most ambitious
25 or necessarily even the best, but we do have a very robust

1 and compre -- comprehensive suite of policies in place.

2 You know, we're ignoring some things like we're
3 not dealing with aviation, except within our borders.
4 We're not dealing with international shipping, you know,
5 because it's not within our jurisdiction. And so, you
6 know, we're not doing everything perfectly. We're not
7 doing everything, but we are on the right path.

8 But having said that, another point I want to
9 make is that the most important contribution of California
10 is as a model and leader. That's actually far more
11 important than the actual greenhouse gas reductions we
12 get. And that's because climate is a global phenomena and
13 we're just one percent of the problem.

14 So I have a little -- so Richard Corey used the
15 word, "feasibility", and I heard some other people use it,
16 and I want to kind of define it with an anecdote that
17 helps us understand what feasible means. Feasible mostly
18 is economics, but it's also consumer adoption. It's
19 impact political and social impacts.

20 But here's a little anecdote, because I realize
21 most of our Board members weren't here for this little
22 experience. The little experience I'm talking about is
23 the black car story. A lot of the staff remember this,
24 but the Board probably doesn't. So about 15 years ago, 14
25 years ago, we adopted a rule basically outlawing black

1 paint on cars. And it made perfect technical and economic
2 sense, because black cars absorb radiation and make the
3 cars really hot, so therefore you have to have a lot more
4 air conditioning, uses more energy, more CHCs and HCFs --
5 CFCs.

6 But as you can imagine, consumers weren't so
7 happy with this. And actually as a matter of fact Rush
8 Limbaugh took it on as one of his primary talking points
9 and, you know, really did make CARB and California
10 somewhat of a laughingstock, you know, ridiculing us.

11 Now, we didn't actually go all the way through
12 with it. We pulled back at the last minute, but -- so,
13 you know, there's a lot of ways of screwing things up, and
14 even if they seem technically and economically right.

15 Okay. So let me, with that little anecdote, let
16 me talk about what I think are some of the priority
17 actions that we, CARB, and other agencies should be
18 taking, kind of helping us frame, prioritize all -- you
19 know, we've been hearing so many things here, technologies
20 and policies.

21 And actually Secretary Blumenfeld talked about,
22 you know, all of these many actions that are needed. And
23 so there are many actions needed, but some are a lot more
24 urgent and a lot more important than others.

25 Okay. So the number one thing -- strategy for

1 us, instead of policies, by far is ZEV cars and trucks.
2 It is far and above the most important strategy we can
3 pursue and we are doing it, but we've got a lot more work
4 to do on that.

5 And that -- by the way, that is for climate
6 reduction, but it also has huge health impacts. And
7 something really important here, this is something for us
8 to be thinking about is that it's actually good for the
9 economy and good for consumers. And that's a message we
10 should be articulating more getting out there. So there
11 will be a bump for another four or five years. There will
12 be a cost to the economy as we rollout these vehicles.
13 We'll need incentives and money for infrastructure.

14 But after that, it starts paying back, because
15 the total cost of owning these vehicles is less than per
16 gasoline and diesel, and this is for trucks too, probably
17 everything but the long-haul trucks that story is. So
18 that's -- that's by far the most important thing we can be
19 doing.

20 Another important thing is the Low Carbon Fuel
21 Standard. We've heard a few comments on that, that one of
22 the things we need to do is tight -- it's a really good
23 policy, but we need to tighten it up. Industry is moving
24 faster than we expected. And, you know, indeed, the
25 coping plan shows that there's going to be a lot of legacy

1 fuels that are going to be persisting and so we need to be
2 dealing with that.

3 Another one is tightening up the Cap-and-Trade
4 Program. You know, people question Cap-and-Trade, but
5 really that's the one policy where we're imputing a price
6 to carbon, you know, through the whole economy. We have
7 a -- we have a market economy. You've got to bring a
8 price to it. There's lots of other things we can be
9 doing, and should be doing, and are doing, but that's
10 important.

11 Another one priority is the cement industry.
12 When we did our first Scoping Plan, we basically ignored
13 cement. We said it's too hard. There's no other ways of
14 doing it and we just really were, you know -- had a very
15 light touch and that's changed. Now, we know there lots
16 of good ways of dealing with it. And then there's -- so
17 those are all what CARB can, and should be doing, and is
18 doing.

19 And then there's all the actions by other
20 agencies. And, you know, just real quickly -- actually,
21 the number one strategy for California or the world on
22 climate is decarbonizing electricity. So I said ZEV cars
23 and trucks, that's the most important for CARB, but
24 decarbonizing electricity is the most important overall.
25 And if you don't, then the ZEV cars and trucks are not

1 really ZEVs.

2 Okay. So there's that. There's PUC and the
3 Energy Commission working on efficient -- energy
4 efficiency, fossil gas reduction in buildings. There's
5 the Resources Agency dealing with carbon sequestration on
6 natural and working lands. There's the Energy Commission
7 on charging and hydrogen infrastructure. There's
8 Department of Food and Ag with N2O, methane, other -- you
9 know, other activities with working lands.

10 And the last item I wanted to address is actually
11 one that the Scoping Plan emphasizes, but really doesn't
12 make sense - sorry - and that's VMT, vehicle miles
13 traveled. I'm a strong advocate for trying to figure out
14 what to do about reducing VMT. But if you look at the
15 data, VMT is going up, not down, despite all of our
16 efforts. And so there are lots of things we can do. Most
17 of the things we want to do is not for climate
18 improvement, but for all the other co-benefits, you know,
19 creating more sustainable cities, you know, healthier
20 cities, and economics of cities as well.

21 But let's not get ourselves caught up too much on
22 trying to do things that are difficult, if not impossible,
23 to -- think back to Rush Limbaugh for instance.

24 Okay. So just to summarize what I've been
25 saying. I know I gave a long speech, but I haven't said

1 anything in a long time and this is my first time in
2 public.

3 (Laughter.)

4 BOARD MEMBER SPERLING: I actually -- I've
5 been -- I've been sick and have been recovering from an
6 operation, so this is like really exciting for me to be
7 out here.

8 (Laughter.)

9 BOARD MEMBER SPERLING: So, you know, to leave it
10 on a positive note, we really are on a positive -- on a --
11 on the right path. And I think we really need to keep
12 that in mind. What we need to -- there's lots of
13 challenges. There's lots of bumps. There's lots to worry
14 about, but basically we have most of the right policy
15 instruments in place. We need to refine them. We need to
16 extend them. We may need to make some adjustments to
17 them, but we're on the right trajectory. We're in a
18 really good place. And we are a model. And we're
19 benefiting. You know, I said the most important thing is
20 being a model and a leader, but being a model and a leader
21 in our case is actually we get a lot of benefit like from
22 what I talked about with vehicles going to ZEV cars and
23 trucks. We're going to benefit economically from being a
24 leader in that.

25 So thanks for your indulgence. Much appreciated.

1 And I'll leave it to my other Board members to tell me
2 where I'm wrong.

3 (Laughter.)

4 CHAIR RANDOLPH: Okay. Thank you.

5 Dr. Balmes.

6 BOARD MEMBER BALMES: Thank you, Chair Randolph.

7 Well, I agree with a lot of what my fellow UC
8 professor said, but he left out an important area --
9 actually two where I think California needs to lead. And
10 I'll start with praising staff for modeling carbon
11 emissions and sequestration in natural and working lands.
12 This is much more robust than in previous Scoping Plans.
13 And so I really appreciate it, because, in fact, dealing
14 with wildfires is a hugely important issue for California
15 and the mountain west in general, and in effect around the
16 world. So we need to lead with regard to reducing the
17 risk of catastrophic wildfires as the climate increases
18 the risk of those fires and development in the wildland
19 urban interface threatens the people who live there and
20 the society they has to deal with trying to save their
21 structures.

22 So the amount of investment that we'll have to
23 make to manage our forests. You know, the modeling
24 mentioned that we have to manage the forest and it showed
25 that the forests were the biggest contribution to carbon

1 emissions in the time frame that was modeled. The amount
2 of investment is huge. California has started to get a
3 little more serious. We're currently supposed to be doing
4 forest management for one million acres a year. I don't
5 think we've come close to that in any previous years.

6 And, in fact, because last year was such a bad
7 wildfire year, the U.S. Forest Service stopped doing
8 prescribed burns, because of the concern about risk of new
9 fires. So the forest management issue is huge. And I
10 thought that the -- I mean, I know we'll have more
11 discussion about the Scoping Plan in the future, but
12 it's -- I have to elevate this problem. And, you know,
13 again, it's not something that CARB controls. We have to
14 work with sister agencies, but we can highlight the
15 magnitude of the problem in the Scoping Plan.

16 And just to give an example, I don't have numbers
17 for California at my ready, but the bad wildfire season,
18 brush -- bush fire in Australia, the 2019-2020 fire season
19 for Australia, the amount of climate forcing emissions was
20 equal to the entire -- entire year of other sources of
21 greenhouse gas emissions in Australia. And I again don't
22 know the number for California. But last year was such a
23 bad wildfire year in terms of acres burned that I think it
24 may not be as much as motor vehicles, Professor Sperling,
25 but it's a huge cont -- contribution. It's only going to

1 get worse. So that's -- that's the number one area where
2 I would add on to Professor Sperling's comments.

3 And the other one is agriculture. And I actually
4 have to take some issue with Secretary Blumenfeld who
5 said, you know, pesticides can't be included in the
6 Scoping Plan. Well, I realize we don't have data about
7 greenhouse gas emissions from pesticides. We do recognize
8 it's a health burden, especially for low-income
9 communities that -- of color that live near agricultural
10 lands. But we need it -- as I said last Board meeting, we
11 need to transform agriculture to be more sustainable, less
12 synthetic in terms of pesticides and fertilizer. It's a
13 huge transformation that is needed and it's -- you know,
14 we've -- as Professor Sperling said, we've made a lot of
15 progress towards zero-emissions vehicles. We've made a
16 lot of progress towards renewable power, but we need to
17 make a lot of progress with regard to natural and working
18 lands, and that includes both forest management and
19 agriculture. And if we made that transformation of how --
20 of agricultural practices, then we wouldn't have to use
21 pesticides that are such a health problem, and an
22 inequitable health problem in particular.

23 And I guess finally I would have to say, and this
24 is politically unwise of me to say, but trying to give
25 everybody in the state a gas tax re -- or gas re -- gas

1 price rebate makes no sense to me, when we're trying to
2 reduce greenhouse gas emissions from motor vehicles with
3 combustion engines.

4 I can see a targeted -- targeted support for
5 low-income people, but I have two cars, one of which is a
6 battery electric. If I get \$400 for my battery electric
7 car, plus \$400 for my wife's internal combustion engine
8 that \$800, I'd rather see it go to -- towards forest
9 management. And, you know, maybe we don't have the
10 ability to do all the forest management that we need to do
11 now. We can put it into a fund, because we're going to
12 need that money down the road, so -- and also, we always
13 talk every Board meeting about all the incentive dollars
14 that are needed to move towards zero-emission vehicles
15 today. We talked about all the incentives needed for --
16 to move towards ZEV commercial harbor craft. Again, why
17 are we going to put \$9 billion towards dealing with gas
18 price rebates.

19 Thank you.

20 CHAIR RANDOLPH: Thank you.

21 Dr. Pacheco-Werner.

22 BOARD MEMBER PACHECO-WERNER: Thank you, Chair.

23 And, you know, thank you, everyone, for their
24 contributions. Sorry. I'm a little bit under -- under
25 the weather today, but I do want to ask several questions

1 here. And I know that my line of questioning may sound
2 like I'm asking you to defend your dissertation, but I
3 just want to make sure I clarify some of the assumptions
4 that were made during the comment period and how those
5 align with your work that you've arrived to today, and
6 also some questions about the next steps.

7 This is such a critical process that I know you,
8 along with so many in our public, has spent countless
9 hours towards, so I just want to make sure we kind of
10 attend to some of these -- some of these questions, some
11 made by our EJAC and some made by -- by the public.

12 And so I -- if I can, maybe I'll ask all my
13 questions first and then -- and then I really would love
14 to hear back on -- on these.

15 The first question is on the modeling of the
16 refining operations, one of the EJAC members made a
17 comment about the modeling being based on hypotheticals
18 versus actual operations. Can you please respond as to
19 how your modeling compensates for that?

20 In this -- the next question is in terms of the
21 comments from the waste management industry, their -- the
22 use of their natural gas, can you please clarify for me
23 how you have or have not included the use of that gas from
24 that -- from just that particular industry into your
25 scenarios.

1 The third question is there were comments made on
2 the effectiveness of carbon capture and sequestration.
3 Can you please let me know a little bit more about where
4 CARB stands on the -- on this technology in terms of its
5 effectiveness?

6 The next question -- and if you need me to repeat
7 any of then, I'm happy to do so. The next question is
8 that there were comments during the presentation as to
9 adjusting the modeling at a later date. Does that mean
10 the modeling we saw today will be based -- will be
11 modified based on the health and economic analysis to come
12 or modified for some other reason?

13 And then my last question is around the -- there
14 were -- there were comments made on -- on sort of like the
15 global impact of -- of solar and battery generation. And
16 I just wanted to see if you could respond to that comment
17 in terms of how that does or does not fit into your
18 modeling or are we just -- you know, are we -- are we just
19 focused on really what this means for -- for reductions in
20 California or globally?

21 And I would like to say in terms of -- of
22 comments, that I -- just one comment that I do look
23 forward to the creation of a permanent EJAC Board that
24 looks like and is the face of what California looks like,
25 and, you know, from regions to demographics, to

1 disproportionate impact. So looking forward to that
2 process when it comes.

3 Thank you.

4 CHAIR RANDOLPH: Staff, you want to respond to
5 Dr. Pacheco-Werner's questions.

6 DEPUTY EXECUTIVE OFFICER SAHOTA: Good afternoon.
7 This is Rajinder. I'm happy to respond to the questions
8 and may ask Matt Botill the Division Chief for ISD to step
9 in on one of them.

10 So there was a question about the modeling for
11 the refinery. And that was about a hypothetical versus
12 operations. There is a whole discussion in the Scoping
13 Plan about uncertainty. There is going to be uncertainty
14 about the types of technologies, the permitting, the
15 timing, the capital costs to do these projects. And
16 there's also going to be uncertainty about the
17 configurations at any of the facilities where you may
18 apply some of this technology.

19 And so we are going to be putting together
20 information that speaks to historically how effective CCS
21 has been applied to refinery installations, because as one
22 of the speakers highlighted, there are multiple smoke
23 stacks on any installation site. And so it is important
24 for us to be able to say with some amount of confidence
25 that we think we can capture a high amount of emissions

1 with CCS on that site.

2 But that's not the only uncertainty, which is
3 between what we're modeling versus what's on the ground.
4 There's a lot of uncertainty in here and we're going to
5 try and capture that in the analysis as well. And again,
6 this is a plan. It is a guiding post -- an actual
7 guidepost or where to go with projects and regs. And so
8 as we think about programs and policies to actually go
9 after the refining sector, or the energy sector, we get to
10 have more detailed analyses, where we may find out the
11 capture rates are different or that different technology
12 options are now available, or that there are better ways
13 to do the greenhouse gas reductions and get better
14 co-benefits than what we outlined in the snapshot, which
15 is the Scoping Plan with the information we have today.
16 So that's the first question.

17 We talked about CCS effectiveness and technology.
18 I think that there's been a bit of a lag in the
19 conversation on CCS, especially in the Scoping Plan. We
20 did have two full day workshops, one in 2019, and one in
21 August of 2020 -- or 2021. And we talked about the state
22 of the technology, the effectiveness of the technology,
23 the science behind the technology. And there's actually
24 20 years of testing that shows that CCS is safe and
25 reliable.

1 There is data that's over two decades old at the
2 Department of Energy that talks about how they've been
3 able to successfully sequester 14 million metric tons that
4 have been injected. There's also been projects that have
5 been in operation since the 70s and 80s globally. And
6 again, more than half of the installation for large-scale
7 CCS are in North America.

8 So there's a long history and a lot of detail on
9 CCS that I think needs to be part of the conversation.
10 And I think when Secretary Blumenfeld said that he'd like
11 to be part of the conversation and Chair Randolph talked
12 about feasibility and the tools on the table, we're
13 hopeful that as part of moving forward, we can have a
14 chance to talk about some of that data, some of that
15 information and bring it into the conversation.

16 In hearing all the comments to date and just
17 thinking about the information gap between what's been
18 existing in the workshops and what the perception is on
19 CCS, I think it's also important to highlight that for the
20 longest time we've all focused on removing or reducing
21 emissions from the sources that produce emissions. And
22 it's only been recently in the IPCC report that removing
23 carbon out of the atmosphere or capturing carbon at the
24 smoke stack has taken on greater importance.

25 So while this technology has been around for

1 quite a bit of time and there's been programs at the
2 federal level, including investment opportunities and tax
3 credits, it hasn't been looked at seriously, because as
4 policymakers we've focused on trying to reduce emissions,
5 not capture carbon, or remove carbon from the atmosphere,
6 but the science now says that has to be part of the
7 solution. And so that's why you're hearing it picking up
8 pace in the conversation, not just in California, but
9 nationally and internationally.

10 The adjusting for the modeling later, we are
11 actually going back and looking at some of the comments
12 that we got at the workshop last week, doing some
13 verification, so the inputs that we had in the modeling
14 that we put out last week in making minor tweaks to some
15 of the assumptions. For example, I think in slide 8 or 9
16 there was assumption of a carbon intensity of 25 percent.
17 That was a constraint that was not meant to be carried
18 through. We will actually be looking at removing that
19 constraint, not a wholesale change of those scenarios, but
20 removing that constraint and then talking with staff about
21 starting workshops this summer on LCFS related to
22 accelerating the carbon intensity going into 2030 and then
23 past 2030, because the modeling shows that we need more
24 clean fuels to come on faster. And LCFS is an excellent
25 tool for helping to subsidize and to get money into the

1 clean fuels sectors of the economy.

2 The last question was about -- well, the last
3 question I'm going to take out of that list is about
4 global implications of solar and battery. When we talk
5 about solar installations and solar power, what we're
6 really talking about is the power consumed in California.
7 And as you're aware, California is an -- is a huge
8 importer of power. So that power can be created in
9 California, sited in California, or sited in -- anywhere
10 in the Western U.S. and the west.

11 We've seen issues related to permitting and
12 siting on large scale renewable installations, like solar
13 farms, wind farms. And we know that there are efforts to
14 build wind farms and solar farms in states around --
15 surrounding us. To the extent that power comes to us,
16 it's not going to generate emissions elsewhere. It is
17 renewable power and it will help decarbonize our
18 electricity grid and grow our electricity grid, because
19 the load growth goes increase.

20 When we -- I think you also asked a question
21 about batteries. Right now, what we're identifying is the
22 amount of zero-emission vehicles that we think we need to
23 meet the Governor's Executive Order. The quantification
24 is really about tailpipe emissions, not the imbedded
25 emissions that are going to be in the batteries or the

1 steel that builds those vehicles, because our accounting
2 framework and our jurisdiction as the State of California
3 are tailpipe emissions in the state and then also
4 emissions of the smoke stack. So that is a constraint in
5 which we live in and work in, because that is where our
6 target for 2020, 2030 is set. And those are the sources
7 over which we have direct control in the state of
8 California.

9 There will be a discussion that some of our
10 programs and some of our actions actually have a reach
11 farther than California, but we're not going to be able to
12 quantify it and we can't regulate those anyway outside of
13 our border.

14 There was a question about the waste sector,
15 natural gas, and how the -- a renewable gas from the waste
16 sector was being directed in the modeling. And for that
17 one, I'm going to ask Matt Botill to jump in.

18 Thank you.

19 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

20 Yeah. Thank you. Matt Botill, Division Chief
21 for the Industrial Strategies Division. So we heard a
22 number of comments from folks that work in the waste
23 sector about RNG and gas. And I'll just take a step back
24 and flag that, you know, under 1383, we've been directed
25 to reduce our short-lived climate pollutants, including

1 methane, by 40 percent by -- 2013 levels by 2030. And so
2 that's really driving some of scenario assumptions to make
3 sure that we hit our methane reduction targets.

4 And some of the ways that we do that are through
5 capture of fugitive methane emissions from waste
6 activities. And so we -- I mean, the modeling included
7 the strategies to hit our 1383 requirements by 2030. And
8 that in and of itself by looking at anaerobic digestion
9 technologies, at wastewater treatment plants, at dairies,
10 at landfills in terms of gas capture produces some RNG
11 that is available as an energy source for the broader
12 economy, whether it's in transportation, or the industrial
13 sector, or as replacement for fossil gas in the
14 residential and commercial sectors.

15 So we were able to put in some RNG quantities
16 into the modeling. It's small in terms of the total
17 energy value, but it does show up in terms of being able
18 to be deployed as either a natural gas replacement or for
19 hydrogen production in the modeling.

20 CHAIR RANDOLPH: Okay. Thank you.

21 Dr. Pacheco-Werner, did that answer your
22 questions?

23 BOARD MEMBER PACHECO-WERNER: Just one clarifying
24 question. Since you are grouping, in terms of the RNG,
25 the waste management and the ag capture, is there any

1 prioritization of either one or the other in the modeling?

2 INDUSTRIAL STRATEGIES DIVISION CHIEF BOTILL:

3 Yeah, good question. So the strategies are a
4 little bit different. For the wastewater sector, we're
5 assuming that we'll be able to hit our 1383 targets
6 predominantly based off of reductions in methane
7 emissions, capturing those methane emissions from
8 anaerobic digestion and using that RNG. On the ag side,
9 there's different strategies. So there's the opportunity
10 reduce those methane emissions through both digesters,
11 through alternative manure management practices, through
12 reducing the enteric emissions that come from cattle
13 digestion, as well as opportunities to reduce methane
14 emissions from reducing herd sizes in the dairies. And so
15 there is different strategies across the alternatives to
16 get to those methane reduction numbers.

17 Some rely more on digestion, and capture, and use
18 of RNG and others rely more on these alternative
19 strategies that aren't so heavily dependent on digesters.
20 So there's just differences across the scenarios on the
21 utilization on the ag side for RNG.

22 BOARD MEMBER PACHECO-WERNER: Thank you. That's
23 all

24 CHAIR RANDOLPH: Okay. Thank you.
25 Supervisor Serna.

1 BOARD MEMBER SERNA: Great. Thank you, Chair.
2 And let me also start by thanking staff. This is a -- I
3 think a very good body of work. And this is the third one
4 that I've had the chance to be a party to as a member of
5 this Board. And I understand that this is an iterative
6 process, that, if I understand correctly, staff is simply
7 looking for some general feedback today from the Board.
8 It's not an action item. But the feedback you do receive
9 will be used to hone the Draft Scoping Plan even further.
10 And the schedule in front of us for the balance of the
11 year, we have a number of other opportunities to certainly
12 continue to do that and hear from the public and
13 stakeholders.

14 So in the spirit of giving you some general
15 feedback, I will say this is extremely -- an extremely
16 timely conversation and an item to be considered today for
17 me, because last night, I left our Board of Supervisors
18 Chambers at about 11:30 p.m., after a 5-hour hearing on
19 our draft Climate Action Plan. And I may have other
20 colleagues here on the Board that also in their respective
21 local jurisdictions are perhaps engaged in similar
22 activities.

23 But I want to underscore that not only is the
24 Scoping Plan obviously something that has to, you know, be
25 done no later than every five years. Relative to siting

1 in place, implementing basically an action plan to get us
2 to our carbon reduction goals. But it's being used more
3 and more by local government as a -- as a bit of a general
4 template for how their own climate action plans will
5 develop and as a basis for some of the -- or many of the
6 strategies that we would employ locally to achieve our own
7 carbon reduction or even carbon neutrality goals at the
8 local level, the municipal and the county levels.

9 One of the things that I'd like to make mention
10 of, and hopefully it resonates with staff to the point
11 that perhaps the next time this Board and the public
12 receive an update, or as I mentioned, we continue to
13 fine-tune it, is that while the State of California
14 certainly doesn't directly govern land uses, that's
15 largely left to municipalities and counties to govern
16 that -- to govern that activity, much of the discussion
17 that we had last night centered around infill development
18 versus greenfield development, and VMT reduction. And as
19 Dr. Sperling pointed out, perhaps that's something that is
20 not just frustrating him, but others in terms of it going
21 in the wrong direction.

22 But I think we can all understand that there is a
23 direct relationship between how we plan our new
24 communities and what we can expect in terms of VMT in the
25 future.

1 One of the things that I'd like to suggest is
2 that perhaps we have a stronger connection that is
3 directly referenced in the Scoping plan and perhaps it's
4 best couched in terms of how we might work more
5 collaboratively with OPR to provide guidance for local
6 governments as more and more are doing their -- or
7 pursuing a Climate Action Plan, or something similar, so
8 that we at the State in the development of the Scoping
9 Plans, and with each one that we update in the future,
10 there's some acknowledgement of the menu of options that
11 could be articulated at OPR for local governments to, you
12 know, begin to employ with the direct intent to achieve
13 the same basic objectives of the Scoping Plan, but at the
14 local level.

15 I didn't hear a lot of that in the presentation
16 quite frankly. And I just kind of, you know, pondered on
17 the fact that this is a very different conversation today,
18 than it was last night for me, because of that difference
19 in authority over land use regulation. But I would argue
20 that it is probably one of the most important when it
21 comes to again achieving the goals of the Scoping Plan.

22 So I would just offer that up and strongly
23 suggest that staff and other people much smarter than I
24 can think about how we weave that into our further --
25 future activities as we get closer to a final Scoping

1 Plan.

2 Thank you, Chair.

3 DEPUTY EXECUTIVE OFFICER SAHOTA: Board Member
4 Serna, this is Rajinder. And you're right, it wasn't part
5 of the modeling fights that we had today, but just like in
6 the last Scoping Plan, we are going to speak to how all
7 levels of government need to be rowing in the same
8 direction to achieve the outcomes that we're calling for
9 for GHG and air quality reduct -- or air pollution
10 reductions.

11 And so there will be a section that is very
12 specific about local action, whether it's CEQA, whether
13 it's permitting, and where we're trying to get to overall
14 in the state, and acknowledging that many of the decisions
15 around the things that need to happen on the ground, the
16 projects that we need to bring new energy on, the projects
17 that we need to have infrastructure, or sustainable
18 housing, and reduction strategies from VMT, those are very
19 clearly with local government. They're not with the State
20 and so we need to be partners there.

21 BOARD MEMBER SERNA: Thank you for that. I just
22 think we can be more obvious about the fact that we do
23 have this new tool that we're -- that we, local
24 government, are beginning more and more to embrace, which
25 is the Climate Action Plan. And so that may be something

1 that we want to clearly not just mention in the Scoping
2 Plan, but, you know, acknowledge that these -- that the
3 State's Scoping Plan efforts really do provide a
4 springboard for local -- local governments to go through a
5 similar exercise, but at a different scale.

6 So thank you for that.

7 DEPUTY EXECUTIVE OFFICER SEGALL: If I could
8 speak to that just briefly. So it's really I think to us,
9 and our teams are working closely together on this, that
10 climate action plans are a particularly important tool.
11 Now, some jurisdictions may not have a formal Climate
12 Action Plan, but still can take affirmative action
13 consistent with the Scoping Plan.

14 So one of the themes that you'll see throughout
15 our collective work is making this usable for local
16 officials, translating that into sort of CEQA working and
17 to local government working tools to be clear that action
18 is consistent with the Scoping Plan, whether that's
19 promoting dense infill affordable housing, promoting say
20 vehicle charging, promoting building decarbonization in an
21 equitable way. All are consistent, all are appropriate in
22 providing many of the tools to help downscale some of
23 these State targets.

24 And one of the truths here is that the State has,
25 you know, as Professor Sperling noted, a really important

1 portfolio of programs and policies, but they depend upon
2 local action to be implemented, not just effectively, but
3 equitably. So it's just critical to partner with local
4 government officials. In fact, that is critical to the
5 success of the Plan.

6 BOARD MEMBER SERNA: Thanks, Craig.

7 CHAIR RANDOLPH: Board Member De La Torre.

8 BOARD MEMBER DE LA TORRE: Thank you.

9 I'm going to associate myself with Dr. Balmes
10 remarks on a couple of things. One, well, he mentioned
11 wildfires, and so I'll start there. Eighteen of the 20
12 largest wildfires in California history over the last
13 hundred years or so have occurred since 2003, and four of
14 those were last year. So for about 10 years now on this
15 Board, I have been asking for wildfire to be included in
16 our thinking because it's happening. To not include it in
17 the modeling, to not include in our thinking is to deny
18 reality.

19 And it has a couple of impacts. One, it raises
20 the bar, without a doubt, in terms of how many GHGs, we
21 have to compensate for, and two, it forces actions that we
22 haven't done before. The working -- the natural lands
23 impacts that were -- that were mentioned earlier. So,
24 yes, it makes things harder, but it makes things more
25 real. And to not do that -- and this is in private

1 meetings for the last 10 years I've been saying, we're
2 cheating. So to the extent we have a realistic number,
3 and I know it's a moving target, then we are not cheating.
4 We are reflecting reality. And our controls that we do,
5 whatever it is -- whatever policy direction we take to
6 control that are realistic and going to have real impact.
7 So thank you for doing that. I'm really, really pleased
8 that we're finally going to have that embedded.

9 Second, again with Dr. Balmes' comments, I
10 absolutely agree with him on the gas tax refund, not a
11 good idea. Oil companies have shown time and again that
12 if you give them something, there is no guarantee -- in
13 fact, most of the time they -- they're -- they go the
14 opposite way of just taking the money and raising prices
15 and so the consumer doesn't see the difference.

16 The -- I -- I've seen these pricing analytics for
17 the last 20 years. And there is not rhyme or reason to
18 oil imports, oil production, refining. It just is
19 completely random. The profits keep going up and there's
20 no reflection in reality for consumers. So thank you, Dr.
21 Balmes, for mentioning that. I was going to, but since
22 you did, it's the right thing.

23 And then finally, my mantra every time we have
24 this conversation. There were three sectors that did not
25 contribute to us reaching our 2020 targets and I'm going

1 to repeat them again, and I'm going to repeat them every
2 time we have this conversation, transportation, natural
3 and working lands, and short-lived climate pollutants did
4 not contribute to us reaching our 2020 targets.

5 A lot of folks were mentioning about, you know,
6 how we get there for 2030. We do not get there if those
7 three sectors do not contribute period. And so, for me,
8 that's what I want to get to and what we really need to be
9 focusing on, if we're going to hit that 2030 target that
10 is going to be very difficult to reach.

11 So with that, thank you.

12 CHAIR RANDOLPH: Thank you.

13 Board Member Takvorian.

14 BOARD MEMBER TAKVORIAN: Thank you, Chair, and
15 thanks to the staff, and the EJAC members, and the
16 stakeholders who were here again today. I really
17 appreciate this presentation today, because it's the first
18 one I think to the Board -- and I want to emphasize that,
19 to the Board, because I know that you've been making
20 presentations, staff, in -- at a very technical level and
21 really discussing the strategies. But I think this is the
22 first time for this Scoping Plan, that the Board has
23 actually had a chance to reflect on the actual strategies
24 that are being modeled, and it allows the Board and the
25 public to discuss the assumptions and the proposed

1 strategies.

2 I think it's missing some key elements and I'm
3 going to agree with Member De La Torre on the last thing
4 that he said in regards to what is missing, but I'll get
5 to that in a second.

6 My questions I think are more about the process
7 by the Board will evaluate the policy proposals. So
8 that's -- that's what my questions are going on. And I
9 hope if you can start to answer those questions today,
10 that would be awesome, if not, that we begin to
11 incorporate this into our next discussion.

12 So I want to recognize that that -- the
13 difficulty of incorporating diverse assumptions into each
14 of the scenarios. I think that you had to make some
15 choices and you did that, but I think it's clear from the
16 Board discussion and from the public discussion that a
17 combination of strategies as -- is necessary. So the
18 question is how will the Board be able to mix and match
19 scenario inputs prior to receiving the Draft Scoping Plan,
20 because clearly from just Board comments and the public
21 comments, there's -- there's different ideas about how
22 these alternative strategies can be achieved. So I want
23 to -- wanted to ask about that and ask you to talk about
24 that first.

25 And I think that we need to be talking about

1 these alternatives from a high level first and agree on
2 the criteria, which seem to be is it feasible, is it
3 affordable, does it reduce GHGs and air pollution
4 significantly, does it improve health, does it reduce
5 impacts in disadvantaged communities. So the question is
6 how will the Board receive the information to allow us to
7 evaluate against those questions and probably others? But
8 to me, those are kind of the core questions that the Board
9 should be able to answer as it makes a decision about what
10 the Draft Scoping Plan should look like.

11 So transportation as an example. I want to say
12 so slide 9 assumes complete ZEV transition by 2035, which
13 would require massive funding to buy out non-ZEV vehicles,
14 which I think will likely make it infeasible. So I'd want
15 is to know just on this one strategy what is the cost of
16 that buyout? How could those dollars be applied to the
17 mass transit system which would reduce VMT over --
18 overall?

19 And I think in the same way that Dr. Balmes
20 lifted up the transformation of the agricultural industry
21 to reduce the use of pest -- pesticides, we should be
22 considering that same type of transformation for
23 transportation. It doesn't begin with cars and end --
24 begin and end with cars and trucks. We really need to
25 think about this in a more global way. So that's one

1 example where I think we could dig into and want more
2 information. So the question is what -- what's the cost
3 of that buyout?

4 And I feel like I missed, if it's there, the
5 detail of where the potential transition of heavy-duty
6 vehicles is reflected and how is that reflected in terms
7 of a contribution.

8 How are the market mechanisms in Cap-and-Trade
9 reflected in the alternatives, because they're not called
10 out in any of the definition of the alternatives, but I
11 know that there's consideration of them. In the same way,
12 how does the Board evaluate CCS as a strategy? Clearly,
13 there's disagreement. There's disagreement about the
14 science. So when do we have that conversation in order to
15 dig into that?

16 And lastly, I just want to mark that the public
17 health equity analyses that we've talked about in other
18 meetings and that I think a lot of us and members of the
19 public are really looking forward to has to also be a set
20 of criteria that we are evaluating the strategies against.
21 So how much health benefit are we receiving from each of
22 those measures as well as the strategies overall?

23 So those are my questions. I know those are a
24 lot and I can go pack and repeat them, if necessary. And
25 I know that some of them are more overarching and perhaps

1 there's another time to have those discussions, but I
2 wanted to get them on the table.

3 So thank you.

4 CHAIR RANDOLPH: Thank you.

5 I think we will probably be able to tackle some
6 of -- of the questions that you asked and some of them
7 might require a little more follow-up. I mean, I will say
8 from a process standpoint, my understanding, and staff can
9 correct me if I'm wrong, is that there's not going to be
10 another round of modeling before the draft, but there will
11 be an opportunity as we discuss the draft to ask for some
12 additional modeling. Well, I don't know to the extent to
13 which we would be able to ask for -- for additional
14 modeling specifically, so I'm going to turn it over to
15 staff, so that they can give you sort of the proper steps
16 that are going to happen as we evaluate the draft.

17 DEPUTY EXECUTIVE OFFICER SAHOTA: Sure. Happy to
18 answer that question. I think it's worth talking about
19 how intensive the modeling can be, so that you have an
20 understanding of why it's so hard for us to turn something
21 around quickly when somebody has a new idea or new
22 legislation comes out.

23 Just to do the PATHWAYS modeling, it took us,
24 once we got the inputs in December, through early
25 mid-March to get the results back, fact check them, gut

1 check them, make sure they made sense, and then pass on
2 those results to UCI to do the health analysis, the air
3 quality analysis. And then that all goes to Rhodium to do
4 the economic analysis. So there's a sequencing here that
5 builds off of the very first model, which is PATHWAYS for
6 emissions. And the modeling you saw today was PATHWAYS.

7 What we will have available at a public workshop
8 in the coming weeks is information on the economics of the
9 different scenarios. We will have tables, as we're
10 required to do under AB 197, on the costs for the
11 different measures. So I think Board Member Takvorian
12 when you asked what was the dollar amount for that measure
13 where we have to buy back vehicles, we will have that data
14 and those numbers available as part of the Draft Scoping
15 Plan.

16 And that affords everyone an opportunity to look
17 at the merits of not just the individual measures, the
18 deployment rates and the technology that we're choosing,
19 but also how much that's going to cost, and also the air
20 quality benefits. And there's an opportunity to say,
21 well, we don't want to spend it on Measure Y. What if we
22 did Measure Z? And as part of the discussion for the
23 first draft of the Scoping Plan that happens in June, the
24 Board can then have a discussion do we want to do away
25 with some of the measures as part of the Final Scoping

1 Plan and settle on -- one or two -- oops, sorry about
2 that. This will be bad.

3 I just broke a toy from -- sorry. I just broke a
4 bracelet that my six-year old nephew made me for my
5 birthday a couple weeks ago. Hopefully, they're not
6 watching.

7 (Laughter.)

8 DEPUTY EXECUTIVE OFFICER SAHOTA: But, yes, so
9 there's an opportunity to, after the first draft of the
10 Scoping Plan, have all that data available, conversation
11 with the Environmental Justice Advisory Committee, amongst
12 yourselves, and even consider new legislation, because
13 there's always the potential that, at any point, we could
14 get new legislation that accelerates something, introduces
15 a new program, or a new feature that we also have to
16 include in the modeling before we settle on the final
17 Scoping Plan.

18 CHAIR RANDOLPH: Okay.

19 BOARD MEMBER TAKVORIAN: If your six-year old
20 nephew is watching, that we should offer him a job now
21 or -- sorry.

22 (Laughter.)

23 BOARD MEMBER TAKVORIAN: But I -- but I don't
24 under -- I don't understand then how does the health
25 analysis get incorporated, given the flow that you just

1 described.

2 DEPUTY EXECUTIVE OFFICER SAHOTA: So once we have
3 the data from the health analysis, we get a chance to look
4 at the scenarios, and the different features, and decide
5 do we want to accelerate some things because the health
6 analysis indicates we could get more reductions for GHGs
7 or more health benefits from those actions, and it makes
8 sense to move those into the Final Scoping Plan.

9 So as part of -- we've constructed these
10 scenarios, but we'll also have individual measures by
11 their health impacts, their air quality impacts, and their
12 cost impacts. And so that almost plug and play that you
13 kind of mentioned at the beginning in your question, that
14 opportunity exists as part of the discussion of the first
15 draft and before we settle on what's going to be the final
16 draft, so it does happen as part of that process.

17 CHAIR RANDOLPH: Can I just ask a clarifying
18 question following up from that just to make sure we
19 understand the sequencing? That the -- the economic and
20 the health analysis that you just spoke about will be
21 reflected in the draft. And so when the Board looks at
22 the draft in June and has the conversation about that,
23 that will be the opportunity to ask for more analysis of
24 particular issues.

25 DEPUTY EXECUTIVE OFFICER SAHOTA: So we will have

1 the health and the economic impacts, the scenarios as
2 they're constructed now, but also the individual actions
3 in those scenarios. For example, in Alternative 1, we
4 remove all of the legacy ICE vehicles out of the road.
5 That's going to provide some air quality benefits versus
6 letting -- or end-of-life determine when those vehicles
7 are taken off the road in the other scenarios.

8 So just looking across those individual lines,
9 you'll be able to discern what's the cost of each of those
10 and what's the health benefit of each of those.

11 CHAIR RANDOLPH: Okay.

12 All right. Vice Chair Berg.

13 VICE CHAIR BERG: Yes. And I will be quick. I
14 seem to have gotten myself this -- I'm going to move this
15 way. Okay. Sorry.

16 I'd just like to wrap-up the conversation with
17 how we're going to include the EJAC comments. And so last
18 time we did put it in as appendix. And it seems to me,
19 I'm really -- I can understand the amount of work, and
20 we've all acknowledged the amount of work, that has been
21 done. And we understand that there is also a lot of other
22 stakeholders. There's a lot of other quite frankly
23 politics that come into it, economics, everything else.

24 We -- I think one of the things I'd like to be
25 very clear about, we are not the sole decision-makers

1 on -- on what goes in here. We are influenced by all
2 sorts of people, and this is a true balancing act.

3 That said, the amount of work that the EJAC is
4 doing -- and one of the things I keep hearing is how do
5 their voices get heard? And I'm just wondering, after --
6 I did go back and reread the 2017. And I'm just wondering
7 under each chapter, if it would be possible to summarize
8 the impacts of whatever scenario it is that we choose from
9 their perspective. And so that there is a mechanism in
10 which all of their discussion, all of their concerns --
11 well, all might be -- I don't want to -- their major
12 concerns, their major discussions, because as policy
13 readers read this, how do they hear from an EJAC
14 perspective what it means to their communities.

15 Because although this is a plan, we're going to
16 take each item and really drill down to the details that
17 fall under our purview, but what about the others and how
18 do we hear that? I'm afraid if we just, once again, do an
19 addendum that honestly it feels to me it does get lost.
20 And so I don't need you to respond right now, because I
21 haven't given you any heads-up on this, but I'd love it if
22 you would take it back, maybe work with Chanell, talk
23 about some -- yeah, I gave you a job, Chanell.

24 (Laughter.)

25 VICE CHAIR BERG: You were so close of getting

1 out of here, right? Just talk about how we could, in
2 fact, do it differently, so it is heard and truly
3 validated differently that we're listening.

4 Thank you.

5 CHAIR RANDOLPH: Can I just respond briefly to
6 that? I agree with you and we have already started having
7 conversations about what that would look like and how we
8 would operationalize that in the draft, so we are --

9 VICE CHAIR BERG: I should know that, Chair
10 Randolph, and so thank you very much.

11 (Laughter.)

12 CHAIR RANDOLPH: Okay. Appreciate it.

13 All right. Any other Board Member comments?

14 Okay. Seeing none, I just really appreciate
15 staff's work. The explanation of this complex modeling
16 was extremely helpful. We really appreciate you taking
17 the time to walk -- walk us through all of this and give
18 us a lot to think about between now and when the draft
19 comes back. And the Board member comments I thought were
20 really helpful. And -- and I appreciated your discussion,
21 Rajinder, about the issue of uncertainties and how that
22 gets discussed in the Plan.

23 You know, Connie Cho in particular asked some
24 really specific questions about CCS, and a lot of
25 commenters had -- had questions about it. And I think the

1 draft will really provide an opportunity to put more
2 layers of nuance around that conversation in a way that
3 the modeling really can't, because the modeling is so sort
4 of limit in terms of discussing things like the
5 technologies, the potential deployment, and the potential
6 different uses that we may or may not be using CCS for or
7 what the potential is for carbon removal strategies and
8 what the technological issues are around both of those
9 different strategies. And so I appreciate that we'll have
10 the opportunity to explore that more in the draft.

11 I think that is it for the discussion on this
12 item. And again, thank you for all of your work.

13 And now I think we are ready for open public
14 comment.

15 BOARD CLERK GARCIA: Thank you, Madam Chair. We
16 have two commenters who wish to speak at this time. The
17 first commenter -- well, the first two commenters will be
18 Dave Cook and a phone number ending in 990.

19 Dave, I have activated your microphone. Please
20 state your name -- oh, I'm sorry. Go ahead and unmute.

21 DAVID COOK: Yes. You can hear me?

22 BOARD CLERK GARCIA: Yes.

23 DAVID COOK: Good afternoon, Madam Chair, and
24 fellow Board members. My name is David Cook and I am
25 working with a consortium of California small businesses.

1 We have been proposing and moving forward with
2 low-emissions locomotive retrofits, including one
3 zero-emissions locomotive that operates one day every two
4 weeks at a small railyard in Anaheim, California.

5 Recently, a large mining company in Australia has
6 announced that they are investing in an ambitious
7 gravity-powered infinity train project. A train of loaded
8 rail cars from the mine going downhill will use
9 regenerative braking to charge the locomotive batteries,
10 which then allows the train to bring the empty train back
11 up hill to the mine on battery power.

12 This is done without the need to use grid
13 electricity to charge the batteries and the locomotives,
14 making this a carbon negative short-line railroad that is
15 generating its own renewable electricity with the
16 locomotives.

17 Our coalition is proposing a path for CARB to
18 take a leadership role in allowing California to beat the
19 Australians in the race to be the first in the world with
20 a fully operational carbon negative short-line railroad.
21 This would involve a few incremental, but shovel-ready,
22 projects that involve California based small businesses,
23 small railyards, and short-line railroads.

24 We propose three overlapping projects that will
25 achieve full-time operation of a light-duty zero-emission

1 switching locomotive for sorting railcars at several small
2 railyards through the use of a CORE voucher, operate two
3 net zero medium horsepower locomotives in heavy-duty
4 switching service at multiple railyards, and then convert
5 a short-line railroad at a California mine. It's a carbon
6 negative operation with four battery operated line-haul
7 locomotives.

8 The budget for these seven battery locomotives
9 supported for two-year long demonstrations at multiple
10 locations should be less than what California's currently
11 spending on the purchase of only five Tier 4 diesel
12 passenger locomotives or approximately \$35 million for
13 seven battery-electric locomotives.

14 We look forward to engaging with CARB leadership
15 and staff along with the Legislature to allow California
16 to take on this challenge. I will provide an outline of
17 this proposal to CARB leadership. If any Board member
18 would like a personal briefing on this, I'm more than
19 happy to follow up with your staff and set that up or
20 answer any questions someone may have now.

21 BOARD CLERK GARCIA: Thank you.

22 Phone number ending in 990, I have activated your
23 microphone. Please state your name for the record and you
24 can begin.

25 HARVEY EDER: Hello. Am I being heard?

1 BOARD CLERK GARCIA: Yes.

2 HARVEY EDER: Okay. Good afternoon. My name is
3 Harvey Eder. I'm talking for myself and for the Public
4 Solar Power Coalition, et cetera.

5 One process thing, today, paralleling this from
6 one o'clock to recently, there was a plan meeting, AQMP,
7 for '22 plan for South Coast. Please try to not schedule,
8 you know, parallel stuff. You can't do both.

9 So I -- anyway, two things. Low Carbon Fuel
10 Standard and the history of that. Okay. We started
11 working on that in '07, '08. And Mr. Corey didn't a
12 senior position there, but was instrumental in that. I
13 was taken aback and tried to nip this thing in the bud,
14 but -- this stuff with, you know, waste systems, with
15 natural gas, methane, okay, from -- they're saying dairies
16 and waste systems. Okay. It's methane. It's fossil
17 fuels.

18 The Arctic is melting and we brought this all to
19 you, to the District and you all. In September of '19,
20 the cover article on National Geographic is the Arctic is
21 warming. The tundra is melting. Now that's all on fossil
22 fuel system, all right?

23 So before you go trying to do this garbage
24 again -- and you're looking at drug-resistant antibiotics
25 and that's been totally ignored and put that in the

1 record. We brought this up with Sam Wade. We put it in
2 there. We said now we need you -- you just burn it, you
3 flare it, you get 5, 10 percent. You don't get this --
4 these big numbers and big money. Ten trillion dollars
5 spent on these subsidies. Do you hear that?

6 Okay. This is outrageous. It's -- so you pay
7 for what we did up in the Arctic before you get any of
8 this credit. Straight up. Enough is enough. And the
9 reports that are coming out -- the modeling reports --
10 there was model of models, a hundred different reports
11 done a few years ago and they said the numbers are way
12 worse than -- and the numbers were -- for -- are much
13 higher than those.

14 So that's -- and that was started by Pickens, you
15 know T. Boon Pickens.

16 BOARD CLERK GARCIA: Thirty seconds.

17 HARVEY EDER: That's the clean energy in these
18 folks. We need a political economic study and looking at
19 equity. And right now, this has got to be happening at
20 all the international, national, local levels, and the
21 world is changing, all right?

22 So -- and you did not study the Solar New Deal.
23 No one did. And we got run out of court. We're asking
24 you to support us in getting the trans -- the tape from
25 that and a record that we put in that they would purge --

1 BOARD CLERK GARCIA: Thank you.

2 HARVEY EDER: -- but would not send us a copy.

3 BOARD CLERK GARCIA: Thank. That concludes your
4 time.

5 HARVEY EDER: It's on you folks.

6 BOARD CLERK GARCIA: We have one more commenter,
7 a phone number ending in 528. I have activated your
8 microphone. Please state your name for the record and you
9 can begin.

10 LAURA ROSENBERGER HAIDER: Laura Rosenberger
11 Haider. I think we need -- of course we need 30 percent
12 organic agriculture by 2030, like a lot sooner. And we
13 need for the harbor craft we need hydrogen cell
14 technology, and incentives, and grant money for them to
15 upgrade. And the last thing we need to like not to allow
16 those zombie oil wells to rework their wells. And they'll
17 just drill deeper and -- especially -- especially not the
18 ones that are right next to neighborhoods, like
19 environmental justice communities next to sensitive
20 populations. We have to stop them and that will reduce a
21 lot of emissions.

22 And one of the reasons again crude oil is that it
23 also -- it contains toxic heavy metals that need to be
24 refined out. And some of those are linked to dementia --
25 or early dementia. And for the workers that work in both

1 those industries or just work in the industry where they
2 have to burn a lot of fuel like oil industry fuel. It
3 would be very dangerous to their health.

4 All right. Thanks.

5 BOARD CLERK GARCIA: Thank you.

6 CHAIR RANDOLPH: Does that conclude public
7 comment?

8 BOARD CLERK GARCIA: Yes, that concludes the
9 commenters.

10 CHAIR RANDOLPH: All right. Thank you. This
11 meeting is adjourned. Our next meeting will be our April
12 7th joint meeting with the California Transportation
13 Commission and Housing and Community Development
14 Department.

15 Have a good evening, everyone.

16 (Thereupon the Air Resources Board meeting
17 adjourned at 5:12 p.m.)

18

19

20

21

22

23

24

25

