WSPA

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President

August 27, 2020

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

sent via e-mail to: http://www.arb.ca.gov/lispub/comm/bclist.php

Re: WSPA Supplemental Written Comments for August 27, 2020 Public Hearing to Consider Proposed Control Measure for Ocean-Going Vessels At Berth

To the Clerk of the Board:

This letter supplements verbal comments to be provided by the Western States Petroleum Association ("WSPA") at the August 27, 2020 public hearing to consider the Proposed Control Measure for Ocean-Going Vessels At Berth ("Proposed Regulation"), and also supplements the extensive written comments previously submitted by WSPA on the Proposed Regulation and its various amendments since its original release on October 15, 2019. WSPA is a non-profit trade association representing companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and four other western states.

WSPA is providing these comments in response to the Board's consideration of the Proposed Regulation for potential approval at the August 27 hearing, and as part of a continuing effort to provide feedback on the Proposed Regulation. We incorporate our previous comments submitted on February 15, 2019; March 29, 2019; May 30, 2019; June 14, 2019; August 15, 2019; December 3, 2019; March 4, 2020; May 1, 2020 and July 27, 2020 by reference herein. To ensure inclusion in the record, we attach a copy of our March 4, 2020 comment letter, which was omitted from the Responses to Comments on the Draft Environmental Analysis released on August 25, 2020 ("Responses to Comments").We have commented on multiple occasions in this rulemaking that the Proposed Regulation, in its current iteration and as applied to the proposed at-berth requirements for tankers, cannot be implemented safely and feasibly in the timeframes provided, could cause significant adverse impacts that have not been adequately evaluated, and ignores current economic realities as well as CARB's own commissioned air emissions study for tankers, thus greatly overstating the Regulation's purported benefits.

- No tanker emissions capture and control technology has been proven safe or feasible in practice.
- The global tanker fleet is not capable of using shore electricity to power their cargo pumps, ballast pumps and ballast treatment equipment and to generate inert gas used to safely complete cargo operations. No global interface exists for electrifying tankers.
- Staff have refused to conduct a tanker feasibility study to gather evidence and address this concern before recommending adoption of the Proposed Regulation.
- Staff have failed to provide an accurate and thorough assessment of the negative health and safety effects and other detrimental environmental impacts that the Proposed Regulation could cause.

- Staff has yet to conduct a California Environmental Quality Act ("CEQA") cumulative impacts analysis of the Proposed Regulation.

- Instead of properly addressing the serious safety and feasibility concerns of the Proposed Regulation, Staff have set unrealistic tanker compliance deadlines that do not allow for a feasibility study, then accelerated those deadlines without any evidentiary support that tankers could meet the accelerated deadlines.

- An "interim evaluation" conducted two years after the Proposed Regulation is adopted is no substitute for a proper feasibility study conducted before adoption.

- Staff has erroneously assumed that COVID-19 will have no effect on projected future vessel visits, emissions, the economic health of the tanker industry, or tankers' ability to comply in the timeframes mandated in the Proposed Regulation.

- Staff's proposed "Innovative Concepts" provisions do not provide a realistic and effective alternative to the default at-berth emissions limit compliance deadlines for tankers, and therefore, do not provide tanker terminals and ports relief from the feasibility concerns with proposed control technologies and compliance deadlines.

- Staff has withheld and failed to discuss critical tanker emissions data from its own commissioned third-party study showing that tankers emit far less oxides of nitrogen ("NOx") and particulate matter ("PM") than Staff has been assuming to date.

WSPA again urges this Board to direct Staff to address these serious concerns with the Proposed Regulation, to conduct the necessary studies, and to make necessary changes to the Regulation before returning to this Board for any final approval.

I. Staff Have Failed to Provide Evidence That a Requirement for Tanker Capture and Control is Safe and Feasible for Real-World Tanker Operations, and a Feasibility Study is Required Before the Regulation is Adopted

Staff have conceded that shore power is not reasonable feasible for tankers, and have provided no evidence of an emissions capture technology proven in real-life practice to safely manage and capture boiler exhaust gases from tankers at berth in a manner sufficient to meet the emissions targets by the deadlines in the Proposed Regulation.[1] With shore power a non-option for tankers, approval of proposed regulations that would effectively mandate tanker capture and control to meet emissions limits by fixed deadlines – without any evidence that such systems are safe and feasible in real life practice – is arbitrary, capricious, contrary to CARB's legal duties to fully consider technological feasibility concerns before adopting regulations, and recklessly dangerous for those working in and around tankers at-berth.

To date, despite our numerous requests to do so, Staff have refused to conduct a feasibility study for tankers to develop such evidence. Instead, Staff set compliance deadlines for tankers that were already unrealistic in the original version of the Proposed Regulation and did not provide

[1] As detailed in WSPA's written comments dated December 3, 2019, the record establishes that use of shore power is not a reasonably foreseeable option for tankers to comply with the Proposed Regulation, given the infeasibility of equipping a global fleet of tanker vessels with equipment to utilize shore powering.

sufficient time for a feasibility study – and then adopted 15-Day Changes that ***accelerated*** those unreasonable deadlines for tankers by two years. As WSPA explained in its July 27, 2020 comments, tankers are subject to extremely rigorous international safety standards for management of boiler gases and prevention of explosion. The June 2020 International Safety Guide for Tankers and Terminals ("ISGOTT") and the April 2017 American Bureau of Shipping ("ABS") "Guidance Notes on Qualifying New Technologies" are two examples of international standards that Staff has yet to evaluate for consistency with a mandate for tankers to meet limits that could only be met by adopting yet-unproven capture and control systems.[2] As documented in our letter, lives have been lost due to noncompliance with those standards. Yet Staff have made no attempt to assess whether and how tanker capture and control could be implemented consistent with these important safety guidelines.

For these reasons, WSPA has commented that both the 2027/2029 tanker compliance dates originally included in the Proposed Regulation, and the *accelerated* 2025/2027 compliance deadlines adopted in the First 15-Day Changes, are not only unrealistic and unattainable, but force terminal and port operators to invest millions of dollars into emissions capture and control infrastructure that may not be compatible or safe to operate with today's tankers. The evidence presented in the record on this issue is undisputed. It documents that requiring a yet-unproven capture and control system could create unacceptable risks for at-berth workers, and such evidence should cause this Board serious concern. At the very least, the evidence weighs strongly in favor of completing a feasibility study before the proposed at-berth requirements for tankers are imposed.

Provisions in the Proposed Regulation for an "interim evaluation" in two years that would "assess the progress made in adopting control technologies for use with tanker and ro-ro vessels" is no substitute for a feasibility study. Critically, in order to ensure that the Proposed Regulation is technologically achievable and cost-effective as requited by California law, a feasibility study must be conducted ***before*** adopting tanker emissions limits that could force construction of potentially infeasible and unsafe capture and control equipment, not ***after***.

In its August 25, 2020 Response to Comments ("Staff Response"), Staff does not advance any evidence to support the view that capture and control for tankers (the foreseeable method Staff identifies for terminals and ports to meet the emissions limits in the Proposed Regulation) is somehow feasible in the accelerated deadlines in the Proposed Regulation. Rather, Staff concedes that it accelerated those dates "in response to Board direction" and public comments. Staff Response, p. 12. While Staff continues to claim that these tanker deadlines will "achieve greater and earlier public health benefits" (p. 12), to date it has still not advanced any evidence to support its assertion that tankers will somehow be able to feasibly construct and operate capture

[2] The Response to comments, pp. 133-134, asserts that "The Sixth Edition of ISGOTT referenced in this comment letter has not been provided to CARB by the commenter and is currently only available for purchase for 385 British pounds; therefore, CARB has not been able to analyze its contents in detail." The ISGOTT is an international standards document ensuring safe operations in California and throughout the world, incorporated by reference in the California Code of Regulations and utilized as a resource by state agencies as well as by the industry. See, e.g., 2 Cal. Code Regs. §§ 2315, 2340, 2341, and 2355. This is no different than California's incorporation of the Building Code, a privately copyrighted work. See Title 24 Cal. Code Regs. Given that compliance with the ISGOTT is required by state law, not to mention the massive resources invested by CARB in development of the Proposed Regulation, it is absurd to claim that the cost of purchasing a copy prevents CARB from considering it in connection with this rulemaking.

and control equipment that would allow them to meet those deadlines. Staff also offers "Innovative Concepts" (discussed below) and unspecified "anticipated advances in technology" as justifications for proceeding with the tanker emissions limits and deadlines in the Proposed Regulation (p. 12). But these asserted justifications do not substitute for a proper assessment of real-world feasibility and safety done before emissions control mandates are imposed on tanker terminals and ports.

CARB has a legal duty to adopt regulations that do not impose impossible or unsafe deadlines, and to conduct a feasibility study that includes consideration of existing international safety standards. CARB also has a legal duty not to impose unreasonable compliance costs on stakeholders before producing any evidence that such compliance will be safe or achievable as proposed. Staff have failed to fulfill these duties here, and adoption of the Proposed Regulation without first providing sufficient time to conduct a feasibility study would fly in the face of CARB's legal obligations.

II. The Final Environmental Assessment and Responses to Comments Do Not Correct the CEQA Deficiencies Identified in WSPA's Previous Comments

Prior comments in this rulemaking have highlighted that CARB's Draft Environmental Analysis suffered from various deficiencies under the California Environmental Quality Act ("CEQA"). Before the Board may properly adopt the Proposed Regulation, these deficiencies must be corrected in a revised CEQA document that is recirculated for another round of public review and comment. The Final Environmental Assessment ("Final EA") released on August 25, 2020 does not resolve these deficiencies and in fact creates new flaws, including the fact that it was only released for public review on August 25 when the Board is slated to consider final adoption of the Proposed Regulation on August 27. The release of the Final EA just prior to the public hearing deprives the public of a meaningful opportunity to review the document.

Turning to the substantive CEQA problems, the limited revisions in the Final EA and Responses to Comments also released on August 25, 2020 are largely dismissive of WSPA's previous comments raising issues under CEQA and other concerns. Alluding generally to the "many safety precautions [that] are in place to avoid hazardous conditions" and the "achievements by the tanker industry" in ensuring safe operations, the Final EA simply assumes that "the industry will be able to handle alternative control technology…." Final EA, p. 108. However, as discussed at length in comments from WSPA and industry experts, the industry's safety precautions and track record depend on feasibility evaluations, international tanker safety standards not even considered by Staff (discussed further below), and other processes for which the Proposed Regulation does not allow sufficient time.

The Draft EA failed to address the significant adverse health and safety and other environmental impacts resulting from modifications caused by the Proposed Regulation in terms how the essential safety systems that tanker vessels use to manage flammable cargoes during offloading at a marine terminal would interface with the vessels' exhaust system. In response to these comments, the Final EA contains a revised impact discussion for "Impact 9.A-2: Long-Term Operational-Related Impacts to Hazards & Hazardous Materials" (see pp. 101-109), which, for example, describes the need to manage oxygen levels during the off-loading of hazardous cargo at a marine terminal and the associated risk of an explosion. But the discussion does not describe how the Proposed Regulation could alter or increase this risk—either in terms of the probability, frequency, magnitude or severity—other than to state that "use of capture and control technology would result in increased safety management efforts" and that "CARB reasonably believes the

industry will be able to handle alternative control technology" (p. 108). The Final EA thus fails to inform the public and the decision-makers about the potential impacts ***resulting from the Proposed Regulation***. Additionally, the Final EA indicates that long-term operational impacts regarding hazards and hazardous materials associated with the Proposed Regulation, including the new discussion about the explosion risks associated with the need to manage oxygen levels during off-loading of hazardous cargo at a marine terminal, are "potentially significant and unavoidable" (see Final EA at p. 109—impact conclusion for Impact 9.A-2). Thus, the Final EA highlights a new significant or more severe impact associated with the risk of explosion during off-loading, which is not discussed in the Draft EA. This triggers the need for recirculation under Section 15088.5 of the CEQA Guidelines.

Moreover, the Final EA continues to insist that operational safety impacts to vessels would be less than significant, again relying on industry procedures to ensure safety, without allowing time for their implementation. This position is even more perplexing in that, under the heading of "Long-Term Operational-Related Impacts to Hazards and Hazardous Materials," the Final EA (pp. 104-105) has added text acknowledging that "explosions can occur if proper precautions are not taken" and "additional explosion risk can occur during off-loading cargo." Those risks are considered "potentially significant and unavoidable" even though "CARB reasonably believes the industry will be able to handle alternative control technology." The reason given for the conservative "significant and unavoidable determination is that "it is not possible to determine what safety regulations would govern new vessel technologies." The same is true but precisely the opposite conclusion is reached for "long-term operational-related hazardous impacts to vessels." For vessel risks, "CARB expects that vessel operators will undertake necessary safety precautions" and that expectation – for which the regulatory deadlines provide insufficient time – is deemed sufficient to support a finding of "less than significant." (Final EA pp. 108-110).

The EA also is deficient in its consideration of the impacts from construction activities on sensitive biological resources. The Draft EA failed to adequately address construction impacts to sensitive species, referencing only potential impacts to two bird species. This flaw is compounded by the potential for increased or more severe impacts resulting from accelerated, simultaneous construction activities under a compressed compliance schedule.

The Final EA unfortunately adheres to the insufficient analysis in the Draft EA. The responses to comments state that "[b]ecause CARB does not, and cannot, know at this stage what specific physical improvements are reasonably foreseeable at which berths, the Draft EA takes a programmatic approach to evaluation." The responses further state that the two bird species referenced in the biological impact analysis are merely "provided as examples and the Draft EA does not indicate that impacts would be limited to only these two species" (Responses to Comments, at pp. 47-48). But with respect to the first point, the Final EA acknowledges that "construction under the Proposed Regulation would … result in pile driving activities," so in fact it does know what types of construction actions could be harmful to species in a marine environment. Indeed, the Final EA revises the text of the Draft EA to contain a new acknowledgment that "[p]ile driving can cause impacts on aquatic species, including acoustic impacts and individual mortality" (Final EA, at pp. 34, 65). And yet there is no discussion of what types of marine species would be impacted by pile driving—including the specific federally and state-listed aquatic species that are expressly identified in the comments as being adversely impacted by pile driving and in-water construction work—or what the magnitude of the impacts could be. And the fact that the Draft EA does not indicate there would be no impacts to these species that the Draft EA does not mention, is no substitute for an affirmative environmental analysis that provides sufficient information to the public and the decision-makers about the

impacts to the wide range of sensitive biological resources that the Proposed Regulation could cause.

Further, the Final EA indicates that construction impacts on biological resources caused by the Proposed Regulation, including the new recognition that pile driving would cause mortality to aquatic species, are "potentially significant and unavoidable" (see Final EA at p. 68—impact conclusion for Impact 4.A-1). Thus, the Final EA highlights a new significant or more severe impact associated with impacts to aquatic species listed under the California Endangered Species Act and the federal Endangered Species Act—an issue that is not discussed in the Draft EA. This again triggers the need for recirculation under Section 15088.5 of the CEQA Guidelines.

Moreover, the responses to comments claim that the compressed construction schedule to accord with the accelerated compliance deadlines under the First 15-Day Rule Change would not lead to more significant construction impacts on biological resources. The responses state that the impact conclusion "is not based on the implementation timeline" and "does not hinge on the duration of construction," but instead "relies on the nature and extent of impacts" (Responses to Comments at p. 25). But this fails to address how the "nature and extent of impacts" would be exacerbated if various construction actions needed to comply with the Proposed Regulation occur simultaneously within a defined geographic area (e.g., in and around San Francisco Bay) due to the accelerated compliance timeframe, instead of this same suite of construction actions being spread out over a longer compliance period. In other words, the "timeline" and "duration" of different construction actions, taken together, could very well increase the "nature and extent of impacts"—an issue that the Final EA fails to adequately address.

The EA similarly fails to adequately evaluate potentially significant cumulative impacts. Under CEQA's requirement to study cumulative effects, CARB must evaluate potentially significant impacts which may result from the combination of the proposed project (here, the adoption of the Proposed Regulation) together with other past, present and probable future projects "causing related impacts." CEQA Guidelines § 15130(a)(1); *see also* CEQA Guidelines § 15065, 17 C.C.R. § 60004.2(a)(4). As discussed in WSPA's December 3, 2019 comments, the Draft EA improperly utilized statewide projections developed for purposes of analyzing air quality improvement measures in its own State Implementation Plan ("SIP") Strategy, rather than utilizing a project list or projections of cumulative shoreline construction for industrial and residential development that, together with the Proposed Regulations, would contribute to cumulative impacts to biological resources, wetlands and sensitive habitats, and other coastal impacts.

For example, the attachment found at Tab 2 lists 11 such projects involving wharf improvements and other construction, dredging, filling, and/or habitat modification in the vicinity of, and in potentially overlapping time frames with, construction of projects to comply with the At Berth Regulations. This list is not exhaustive, however. It is CARB's responsibility to compile and analyze cumulative impacts from either a list of projects "producing related or cumulative impacts, including if necessary, those projects outside the control of the agency" or a summary of projections that properly "describes or evaluates conditions contributing to the cumulative effect." CEQA Guidelines § 15130(b)(1).

The Final EA again adheres to the inadequate analysis in the Draft EA. The responses to comments assert that no edits are required, stating that the use of the SIP "is an appropriate option for cumulative impacts analysis for the Proposed Regulation because the Proposed Regulation's primary objective is to reduce emissions of criteria pollutants and TACs from the operational [sic] of auxiliary engines while vessels are at berth in California ports" (Responses to

Comments at p. 52). This misconstrues the fundamental purpose of a cumulative impact analysis under CEQA, which is to evaluate the "impact which is created as a result of the combination of the project evaluated … together with ***other projects causing related impacts***." CEQA Guidelines § 15130(a)(1) (emphasis added). The "related impacts" here are the potentially significant construction impacts to biological resources, regardless of the purpose of the Proposed Regulation in addressing a different environmental issue (air emissions). The approach in the EA improperly ignores the specific types of projects that have been raised in the comments as "causing related impacts" to sensitive biological resources, by artificially relying on a set of air quality measures that may not cause these related impacts. In short, the Final EA, like the Draft EA, contains an inadequate cumulative impact analysis, by failing to assess the very types of projects and impacts that CEQA requires for this analysis.

Lastly, as with the analysis of biological impacts, the Final EA fails to assess how the accelerated compliance schedule would affect the analysis of cumulative impacts. The Responses to Comments state that "only the activities done in response to the Proposed Regulation need be discussed" (Responses to Comments at p. 80), but again this ignores the fundamental requirement of a cumulative impact analysis—which is to assess how the accelerated compliance actions under the Proposed Regulation's amended deadlines would combine with "other projects" (i.e., that are ***not*** "in response to the Proposed Regulation") to cause "related impacts" (e.g., impacts on biological resources).

In addition, the deferral of compliance start dates for other vessel categories (especially ro-ro vessels) in the Second 15-Day Changes potentially brings construction of projects into overlap with construction at tanker terminals under the accelerated deadlines in the First 15-Day Changes. To date, Staff has not addressed the potential for impacts based on this overlap. This must be addressed before the Board even considers adopting the Proposed Regulation.

In light of the extremely truncated amount of time to review the Final EA and Responses to Comments, these are only illustrative examples of the deficiencies in Staff's environmental evaluation. The EA must be revised and recirculated to comply with CEQA.

III. Staff Improperly Assume That the COVID-19 Pandemic Will Result in No Impacts to Tanker Emissions, Visits or Future Business Levels

In addition, Staff made the stunning decision in the second 15-Day Changes not to provide any compliance schedule relief for tankers whatsoever, despite the unprecedented impacts of the COVID-19 pandemic on the tanker industry and projections of future vessel visits. At the last hearing on July 27, 2020, Staff simply asserted that "we're already starting to see increases in crude imports in May and June, and demand is expected to continue recovering as more people resume normal daily operations." *See* Transcript of CARB Videoconference Meeting, June 25, 2020 ("Transcript"), p. 329:18-23. Staff provided no evidentiary source to document this claim. Moreover, in their August 25, 2020 Response to Comments (p. 12), Staff simply repeat their unfounded assertion that "there is evidence that the tanker industry will rebound relatively quickly from the current situation," without adding to the record any such evidence.

In contrast, in its July 27 comments WSPA provided documented market evidence to Staff that the tanker industry has also been hit hard by the pandemic, and expects to continue suffering severe economic repercussions for years to come. Nevertheless, Staff have been unwilling to extend to tankers the same relaxation in compliance schedules provided to every other vessel class in the Second 15-Day Changes.

Worse yet, Staff have unrealistically assumed that the COVID-19 pandemic has resulted in ***zero*** changes to its original projections of future costs, emissions, and economic consequences associated with the Proposed Regulation. Staff conceded that they "expect there may be a reduction in emissions to continue over the next few years from reduced vessel activity but outcomes are unknown. Therefore we did not make changes to our inputs or methodologies at this time." *See* Second Notice of Public Availability of Modified Text and Availability of Additional Documents and/or Information ("Second 15-Day Change Notice"), p. 18.

As WSPA explained in its July 27, 2020 comments, economic slowdowns over the next several years are likely to produce less vessel trips and lower vessel traffic, meaning that projected emissions will also be lower. If that is the case, anticipated health benefits of the Proposed Regulation will be less than Staff projected, and the Proposed Regulation itself is likely to be much less cost-effective. These are important impacts for Staff to consider, yet they have refused to accord them any weight.

California law does not allow CARB Staff or the Board to simply ignore the massive impacts of an unprecedented worldwide pandemic and the largest economic collapse in a half-century because "outcomes are unknown." To do so would render Staff's projections of future vessel visits and economic impacts wildly inaccurate, understating potential economic impacts to regulated parties while overstating emissions reductions well above what the facts would indicate. CARB Staff have a legal duty to consider the unique impacts of the pandemic on its initial projections and to determine how those assumptions must be modified to account for the dramatic change in California's circumstances. Again, this Board must direct Staff to reevaluate the Proposed Regulation in light of this dramatic change in circumstances, or risk adopting a Proposed Regulation that is arbitrary and capricious and fails to comply with California law.

IV. The "Innovative Concepts" Provisions Do Not Provide the Compliance Alternative Requested by Industry

Given the absence of any capture and control technology that has yet been proven safe or feasible for real-word tanker operations, and Staff's refusal to conduct a feasibility study prior to proposing the Regulation for adoption, WSPA has repeatedly requested that Staff at least incorporate an alternative compliance option into the Regulation. In response, Staff has proposed the "Innovative Concepts" provisions, but these provisions do not offer any meaningful alternative to the capture and control deadlines. As we have pointed out to Staff in prior comments, the "Innovative Concepts" provisions do not allow regulated terminals and ports to pursue a compliance alternative ***in lieu of*** the at-berth emissions limits. Instead, these provisions offer only a temporary compliance strategy that would ultimately be ***in addition to*** having to install capture and control that would be required to meet the emission targets, which would not be permanently waived by an "Innovative Concept" and which would continue to apply to tanker terminals and ports on precisely the same compliance schedule set forth for those regulated facilities that do not pursue an "Innovative Concept."

Recent amendments to the Proposed Regulation in the Second 15-Day Changes would extend the maximum time for an "Innovative Concept" from three to five years. But this change would not make "Innovative Concepts" an attractive compliance option for any facility, since the option still would not serve to replace the default at-berth emissions limits.

California law requires CARB to consider and offer legitimately reasonable alternatives to proposed regulations that would achieve similar or greater cost-effective reductions ***in lieu of*** the

proposed control. If CARB is going to insist on adopting a Proposed Regulation that requires terminal and port operators to create an unworkable and unproven system, CARB should at least provide an alternative compliance option that *would* be viable. "Innovative Concepts" fails to supply such an alternative.

V. Staff Has Failed to Address the Results of a CARB-Commissioned Study on Real-World Tanker Emissions, Which Indicates That Staff's Emissions Assumptions May be Grossly Inaccurate

Staff has also failed to discuss or publicly release results from its own commissioned third-party study on in-service tanker emissions, which indicate that tankers emit significantly lower levels of NOx and PM than Staff has assumed to date throughout this rulemaking. As WSPA noted in our July 27, 2020 comments, in 2019 CARB commissioned engineers at the University of California, Riverside, Bourns College of Engineering Center for Environmental Research and Technology ("CE-CERT") to conduct a study to evaluate real-world emissions from a modern tanker ship auxiliary boiler in the process of offloading fuel at berth. *See* Miller, W. et al., "Emissions Evaluation of a Large Capacity Auxiliary Boiler on a Modern Tanker," Draft Final Report, March 2020 ("CE-CERT Report"). CE-CERT conducted testing of the boiler in October 2019. The draft report is dated March 2020 but has not been discussed at all by Staff in this rulemaking. Indeed, the report itself was only made available to WSPA after we made inquiries about its status in early July 2020.

The CE-CERT Report documented that real-world tanker boiler PM2.5 and NOx emissions were significantly lower than Staff's assumptions. In fact, based on the CE-CERT Report's findings, Staff's assumptions appear to overstate boiler NOx emissions by over double (233%), and overstate PM emissions by a remarkable 22 times (2,288%). The table below summarizes the differences in the emissions factors measured by the CE-CERT and those used by CARB.

Source	NOx (g/kWh)	PM2.5 (g/kWh)
CE-CERT	0.858	0.0066
CARB	1.995	0.151
Staff Emissions Overstated By	233%	2,288%

The Report substantiated concerns WSPA has been articulating to Staff for over a year that Staff's assumed emissions factors for tankers are inaccurate and significantly overstate tanker boiler emissions due to Staff's reliance on outdated data – data derived from boilers using heavy No. 6 fuel oil and not the cleaner burning, low sulfur distillate fuels CARB has mandated since 2008.

It is troubling that Staff has failed to address the results of a report dated from March when those results are so vitally important for the emissions assumptions that Staff have used to develop regulatory requirements for tankers. Of particular note is the fact that the CE-CERT Report was based on empirical data and provides a more accurate and up-to-date picture of the modern tanker fleet calling on California terminals and ports. As an example, if Staff's current PM emission factor assumptions were replaced by the PM emissions factor in the CE-CERT Report, tanker vessels' share of overall statewide PM from ocean-going vessels ("OGV") would fall from 50% to just 25%. This is flatly at odds with the 50% number Staff cited to the Board as recently

as June 25, 2020, which Staff noted was an important basis for not adjusting compliance timelines for tanker vessels.

In response to WSPA's previous comments on the CE-CERT Report, Staff assert that the results are "unlikely [to]… be broadly applicable to the wider tanker fleets, which are largely comprised of older boiler technologies." Responses to Comments, p. 135. While the specific boilers used for CE-CERT's testing may represent some of the best performing boilers, this cannot explain the ***2,288%*** difference between the emission factors CARB used and results from the CE-CERT testing, nor would it suggest that the outdated emission factors used by CARB Staff are more representative than the results from CE-CERT testing. On the contrary, the weight of evidence highly suggests that the results from the CE-CERT testing is a far closer representation of actual emissions from tanker boilers today than the much older emission factors Staff used.[3]

As explained in WSPA's July 27, 2020 comments, the data used to develop the emission factors Staff used were based on a fleet of tankers from the 1980s that burned fuel oil. Most, if not all, of these tankers have been replaced due to age, and burning fuel oil has not been allowed for any tanker since 2008. For these reasons, the emission factors Staff used are not representative of tankers operating today.

In reality, a large reduction in emissions has occurred in marine auxiliary boilers in the last 30 years. This is not only because of better nozzle designs, but also because tankers are burning cleaner fuel. The important role of the fuel change was confirmed by Alpha Laval engineers, the main marine auxiliary boiler manufacturer, and is consistent with the UCR testing. CARB does not take this into account in its response.

In short, the CE-CERT testing was performed on tankers in today's tanker fleet, using today's mandated fuels. The emission factors used by CARB were based on tankers from more than 30 years ago, using a fuel that is prohibited today. The data reflected in the CE-CERT Report, while not an exact representation of the average tanker today, is certainly a far better representation than the emission factors used by CARB, especially considering the magnitude of the difference.

Needless to say, CARB Staff are legally obligated to publicly disclose and discuss key tanker emissions results from a third-party study CARB *itself* commissioned. We urge the Board to direct Staff to review and discuss the CE-CERT Report results, release the results of its evaluation for further public comment, and revise tanker emissions assumptions accordingly.

VI. Staff Has Not Adequately Considered How Increased Extreme Heat Events Change the Assessment of the Proposed Regulation's Anticipated Benefits

Finally, recent events have demonstrated that extreme weather in California has complicated efforts to mandate full-time electrification of vessel activities at-berth. In the past month, the Governor has issued an emergency order allowing operation of vessel boilers at berth to alleviate stress on the state's power grid during "Extreme Heat Events." These events will happen with increased frequency in the years to come. CARB Staff have not fully and adequately considered the increased likelihood of future "Extreme Heat Events" like this one, which are likely to override electrification mandates and require local generation of boiler power on a number of occasions. Staff's failure to properly account for the increased occurrence of these events in the future has

[3] A memorandum by consulting firm ICF critiquing how CARB staff developed its asserted emissions factors is attached hereto at Tab 3.

tended to exaggerate the likely real-world emission reduction benefits of requiring full-time electrification at ports and terminals.

Also, the Governor's August order allowing more backup and local power production during "Extreme Heat Events" underlines the state's recognition that the at-berth shore power requirements must take a back seat – at least temporarily – to overriding public health and safety risks from wildfire and widespread power outages. Similarly, the attempts in the Proposed Regulation to mandate tanker capture and control at-berth must give way to the more serious risks to public safety that will result from trying to force operation of unproven and unsafe control infrastructure at terminals and ports without first conducting a feasibility study. Once a feasibility study is done, the risk balance may change. But for now, the risks to worker safety at-berth outweigh the potential benefits of mandating maximum emissions reduction at all costs – reductions which may not develop at all if capture and control cannot be done safely.

In addition, while the Final EA considered energy demand and utilities impacts from the proposed regulation, it dismissively concluded that: "[s]ome capture and control systems may be powered by electricity, but it is expected the additional electricity needed would be minimal." Final EA, p. 79; *see also* p. 142 asserting that "[s[hore-side and barge-based capture and control systems would generally be powered by clean diesel" though some "shore-side systems may be connected to public utilities…." However, downplaying the effects of the Proposed Regulation on the grid is inconsistent with the Governor's determination that it was necessary to suspend even the more limited at berth requirements currently in effect, in order to help relieve excessive demand on the grid in the interest of public safety and welfare. Also, Staff's reliance on diesel use here would appear inconsistent with the requirement in the Proposed Regulation that emissions control strategies be "grid-neutral". If anything, the goal of achieving consistency with grid emissions rates through "grid-neutrality" would militate in favor of powering a CAECS through the utility, not by diesel.

* * *

WSPA appreciates the Board and Staff's continuing efforts on the Proposed Regulation, and CARB's willingness to engage the various regulated parties in each affected industry. We share CARB's desire to arrive at a workable and cost-effective approach to addressing tanker emissions at-berth. However, adopting the Proposed Regulation in its current form without addressing the important concerns WSPA and other stakeholders have raised is ill-advised, and risks violating California mandates on full and honest consideration of the environmental and economic impacts of proposed regulations. Even more importantly, adopting the Proposed Regulation as it stands could create unnecessary dangers for those who work in and around tankers at berth. We again urge this Board not to adopt the Proposed Regulation in its current form, but to direct Staff to review and revise the Proposed Regulation to address the concerns raised above and in our many comment letters in this rulemaking.

Sincerely,

Cc: CARB Governing Board Members
Richard Corey, CARB Executive Director

Western States Petroleum Association
Supplemental Written Comments for August 27, 2020 Public Hearing to Consider Proposed Control Measure for Ocean-Going Vessels At Berth

List of Attachments

Tab	Document
1	WSPA Comment Letter to CARB Re: WSPA Supplemental Comments on CARB Proposed Control Measure for Ocean-Going Vessels At Berth (March 4, 2020).
2	Projects Contributing to Potential Cumulative Impacts Together with At-Berth Regulations
3	ICF Memorandum Re: UCR Boiler Testing Results (July 13, 2020)
4	California Proclamation of a State of Emergency (August 16, 2020)

Catherine H. Reheis-Boyd
President

March 4, 2020

Mr. Richard Corey and
Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento, California 95814

sent via email to Richard.Corey@arb.ca.gov
sent via e-mail to: http://www.arb.ca.gov/lispub/comm/bclist.php

Re: WSPA Supplemental Comments on CARB Proposed Control Measure for Ocean-Going Vessels at Berth

Dear Mr. Corey:

This letter supplements comments previously submitted by the Western States Petroleum Association (WSPA) on the California Air Resources Board's (CARB) Proposed Control Measure for Ocean-Going Vessels at Berth (Proposed Regulation), released October 15, 2019, and its accompanying Draft Environmental Analysis (Draft EA), released October 1, 2019. WSPA is a non-profit trade association representing companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and four other western states.

WSPA is providing these comments as part of a continuing effort to provide feedback on the At Berth Regulations. We incorporate our previous comments submitted on February 15, March 29, May 30, June 14, August 15, 2019, and December 3, 2019 by reference herein.

The safety and well-being of our members' employees is of critical importance to our members and their facilities. While WSPA strongly supports CARB's air emission reduction goals and improving the air quality in communities where our members operate, we continue to have concerns that CARB staff has failed to address the serious safety and feasibility issues associated with the Proposed Regulation – issues we have consistently communicated and submitted in writing to staff over the past year and half. The types of emissions capture and control equipment that would be required by the current Proposed Regulation for tanker terminals have not been proven safe and feasible in use with tankers. Attempting to employ such measures at our members' terminals could create an unacceptable risk of a catastrophic explosion or other dangerous incident. Moreover, the Proposed Regulation would further place tanker vessel operators and marine terminal operators in an untenable position by mandating unrealistic compliance deadlines, effectively requiring regulated businesses to rush new equipment and processes into terminals before crucial feasibility and safety studies can be completed.

Since workshops on the Proposed Regulation began, WSPA has documented the recognized safety and feasibility problems associated with proposed tanker emission controls, urging CARB to partner with industry to first conduct a feasibility study. WSPA has also called on CARB staff to add to the Proposed Regulation an alternative compliance option that would achieve equivalent emission reductions from other sources. While WSPA looks forward to working with staff on the concept of an alternative compliance option, it seems to us that CARB staff have for the most part dismissed our request for a feasibility study to be done. We are also concerned with statements that were made at the December 5, 2019 Board hearing might have not been clear regarding whether the Proposed Regulation is feasible for tanker vessels.

We want to assume good intent. To that end, WSPA is ready to continue working with CARB staff to revise the Proposed Regulation to address these serious concerns. Like CARB, we believe it is vital to ensure improvement of air quality in and around marine terminals. But that improvement cannot be realized or sustained unless it is accomplished through measures that are feasible, cost-effective and safe. To that end, we are attaching to this letter a suggested redline of the Proposed Regulation that clarifies additional provisions regarding the need for a feasibility study prior to the imposition of deadlines, and an alternative compliance option that would enable a more feasible path to compliance while ensuring the health and safety of the communities in which we operate. WSPA urges CARB to include these amendments in the next revision to the Proposed Regulation.

First, any emission control strategy proposed for tanker vessels must first be demonstrated feasible and safe in the types of facilities and marine terminals where it is proposed.

Tankers have unique characteristics and safety concerns that distinguish them from other marine vessels. Tankers have very large boilers necessary to drive transfers of flammable liquid cargo. Indeed, the Proposed Regulation singles out tanker boilers as the sole category of boilers to be regulated on any at-berth vessel. For these boilers, CARB staff have acknowledged in the Initial Statement of Reasons (ISOR) that "[s]hore power . . . cannot be used to power boilers, because boilers are not configured to operate on electricity. As such, shore power does not reduce tanker boiler emissions." ISOR, p. ES-23. Additional challenges with equipping tanker vessels with shore power include adoption by the international fleet given a lack of international requirements and standards to allow for a vessel to connect, to a grid, at multiple locations. Further, the time required to "turn over" the fleet of tankers to be equipped with this capability would be extensive. Accordingly, CARB staff have concluded that the most suitable control strategy would be stack capture and control ("stack capture").

However, attempting to control tanker boilers with stack capture introduces significant risk, including risk of explosion that precludes testing the equipment on actual tankers. CARB staff did not consider or cite to any stack capture system on an actual tanker, but instead looked at stack capture systems used on *container* vessels in POLA and POLB, and simply assumed that those systems would work safely and feasibly on tanker vessels because they worked on container vessels. This assumption is wrong and ignores the unique operations and safety considerations that exist for tanker boilers.

Listed below are a few examples of operations and safety considerations that were ignored or discounted by CARB staff:

- Tanker boilers are required by regulation to route their exhaust gas to the cargo hold, in varying amounts, to make the vapor space in the cargo hold safe from explosion. Extensive engineering studies are needed to determine if and how stack capture and control can be designed and operated without impairing this safeguard or violating existing safety regulations.

- Capturing tanker boiler exhaust gas without a properly engineered and tested control mechanism runs the risk of static electricity generation, electrostatic discharge, and creating a potential explosive condition on a vessel filled with flammable and explosive liquid.

- There are no international or domestic standards or safety guidelines specifying how a stack capture and control mechanism would be safely managed or maintained for oil tankers. The international tanker fleet consists of a large variety of ships, mostly operated by third parties, with a complex mix of boiler configurations. All types of connections and interfaces between tankers and terminals must be designed to engineering standards, rules and guidelines from regulators (USCG, Classification Societies) and industry (Oil Companies International Marine Forum (OCIMF), International Safety Guide for Oil Tankers and Terminals (ISGOTT), International Marine Organization (IMO)). The Proposed Regulation would require installation of capture and control systems on tankers with no currently available guidance on how that could be done safely or feasibly.

Before any actual pilot testing can be conducted, a feasibility study needs to be conducted to fully take into account these and other operational and safety considerations, including the need for development of rules and standards in order to design a safe interface and operational procedures for any control equipment between an oil tanker and an emissions capture system. Vessel operators, mostly third party, will not allow the connection of equipment that is not regulated, classified, and/or certified to design and safety standards recognized by regulators and industry.

WSPA is confounded by what we took to as the representation by CARB staff to its Board members that no operational and safety considerations needed to be addressed with regard to a safe tanker/shore interface and standardized operational procedures for any control equipment involving an oil tanker and an emission capture system. This letter highlights two examples below and includes several other examples attached for reference in the Appendix to this letter (see Tab A).

- At the December 5, 2019 Board hearing, CARB staff asserted that a feasibility study was completed for tankers, that this feasibility study is fulfilled by the 2018 Technical Assessment and staff report, and that any remaining feasibility study is site-specific. However, the two documents CARB staff refer to do not reference any example of stack capture being safely and successfully applied to tankers, nor any analysis of how stack capture can be re-designed to operate safely on tankers. In fact, in these documents CARB staff have conceded that more tests and safety studies need to be performed *before* attempting to use stack capture on tanker vessels, regardless of site or location. In CARB staff's own words:

    - "Although these shore-based and barge-based emission control systems are effective at reducing PM and NOX emissions on container vessels, **more testing is needed on other vessel types, including tankers**, auto carriers, general cargo and bulk cargo." Appendix, Tab B, CARB Draft Technology Assessment: Ocean-Going Vessels, May 2018, p. 72 (emphasis added);

    - "**Regardless of location, safety studies need to be performed to ensure all safety considerations are met**, given that the tanker vessels carry explosive cargos." Appendix, Tab C, CARB Staff Report: Initial Statement of Reasons (Oct. 15, 2019), p. III-22 (emphasis added).

- Also at the December 5, 2019 Board hearing, CARB staff alleged that "technology manufacturers have assured CARB staff that there are engineering solutions for both ro-ro and tanker vessels." While technology providers may have assured CARB staff that

> capture and control has proven feasible on vessels ***other*** than tankers, or that engineering solutions to enable controls on tankers might be developed at some ***future*** date, they have not stated that these solutions currently exist. In fact, on April 16, 2019 during a CARB At Berth Working Session, a lead technology provider stated in a presentation that the land-based system faces a number of design challenges when applied to any tanker vessel, including safety (a higher hazard level, need for safety standards and procedures, emergency protocols) and ability to design and operate a larger and more complex configuration.

Adopting the Proposed Regulation without a proper determination of feasibility, safe operation and cost-effectiveness before any requirements or deadlines are imposed on regulated parties would violate the Health & Safety Code. Doing so also results in unaddressed operational and safety concerns that preclude any testing of capture and control on in-service tanker vessels. The Proposed Regulation's "interim evaluations" or future technology assessments are no legal substitute for a finding of feasibility before a regulation is adopted.

We strongly urge CARB to conduct a feasibility study before any terminal plan deadlines prior to 2023 are enforced. This feasibility study would identify the key criteria to demonstrate the operability and safety of stack capture on tankers, and require the engineering analysis of stack capture designs against these criteria prior to conducting any pilot testing program.

In the Appendix to this letter, at Tab D, WSPA has included a redlined version of the Proposed Regulation with changes that would address the need for a feasibility study. WSPA urges CARB to incorporate these redlines into a revision of the Proposed Regulation.

Second, the Proposed Regulation should include an alternative compliance option to achieve equivalent emission reductions.

During the January 30, 2020 webinar on the Proposed Regulation, CARB staff indicated for the first time they are working on including an "alternative" compliance option to allow regulated facilities to reduce emissions from sources other than vessels at-berth. However, we are concerned that CARB staff has also stated that such an "alternative" option may only be provided to allow sources to achieve "extra or early" emissions reductions ***in addition to*** the capture and control the regulation already would require, rather than ***in lieu of*** the capture and control requirements.

We believe this would not amount to a compliance "alternative" at all. WSPA strongly supports a true alternative compliance option to reduce emissions from other sources in an amount equivalent to the current regulation, subject to CARB approval.

If an alternative compliance option can reduce emissions in communities adjacent to ports in an amount equivalent to the Proposed Regulation and by the currently proposed timelines, then the intent of the Proposed Regulation should be fulfilled, and there should be no additional requirements or limitations imposed on the alternative emission reductions. Adopting additional requirements or limitations as a condition of this "alternative" option would defeat the entire purpose of the alternative compliance option, which would be to provide needed flexibility to regulated facilities to meet emissions reduction requirements in ways that are feasible, cost-effective and safe.

In the Appendix to this letter at Tab D, WSPA has proposed redlines to the Proposed Regulation that would incorporate a workable example of the alternative compliance option described above. If available, an alternative emission reduction option would allow operators the ability to achieve the same air quality objectives in the same timeframe or earlier. It is important that operators be given the ability to achieve the same air quality objectives through alternative means, given the differences between operators, berths, etc.

WSPA commends CARB's important ongoing work to identify and achieve real-world health benefits from feasible and cost-effective emissions reduction measures in communities impacted by air pollution. But those health benefits simply will not be achieved if proposed regulations are not feasible, and further dangerous risks of harm from fire or explosion could be created if the regulation proceeds forward without properly assessing the safety of the proposed requirements. Because California law requires a formal feasibility determination before a regulation is adopted, WSPA again urges the Board to direct Staff to reassess the Proposed Regulation, provide for a feasibility evaluation study before imposing any enforceable requirements on stakeholders, and revise the regulatory implementation in accordance with the findings of the feasibility evaluation study.

WSPA appreciates this opportunity comment on the Proposed Regulation. If you have any immediate questions, please contact me at this office.

Sincerely,

Appendix

Western States Petroleum Association (WSPA) Comment Letter
March 4, 2020

WSPA Supplemental Comments on CARB Proposed Control Measure for Ocean-Going Vessels at Berth

Appendix

Tab A - List of Questionable CARB Staff and Public Statements during CARB Hearing on At Berth Regulation - Dec. 5, 2019

Tab B - CARB Technology Assessment: Ocean-Going Vessels, May 2018 (excerpts)

Tab C - CARB Staff Report: Initial Statement of Reason, October 15, 2019 (excerpts)

Tab D - WSPA Proposed Alternative At Berth Regulatory Language (red-line version)

TAB A

List of Questionable CARB Staff and Public Statements
CARB Hearing on At Berth Regulation - Dec. 5, 2019

- P. 5:19-24: *"Further emissions reductions from ocean-going vessels at berth are needed to provide public health benefits to the port communities that are already heavily burdened by air pollution from port-related freight sources, as well as to contribute to our ozone and greenhouse gas reduction goals."*

    - The evidence in the record does not support the view that reductions at berth are likely to be any significant contributor to achieving ozone and greenhouse gas reduction goals, or that such reductions will yield any measurable net public health benefit.

    - Also, Staff's estimate of growth in emissions in inaccurate, as it only relies on the 2016 Mercator report and the Freight Analysis Framework

- P. 7:16-22: *"But staff has taken this opportunity to really connect with our port communities and work closely with them and the maritime industry in order to develop a regulation that's really health protective, but also takes into account the unique operations that occur in our ports here in the State."* Also p. 14:4-6: "*Now, to develop this proposed regulation, staff has conducted extensive community and industry outreach."*; 13-19 *"We've also had the opportunity to thoroughly engage with our maritime industry. We've gotten the opportunity to visit many of the vessels, ports, and terminals that would be included in this regulation. And again, the tour gave our staff a much better insight to understand the unique layouts and operations of some of these vessels, terminals, and ports."*

    - Staff has largely <u>rejected</u> data from industry showing that the regulations are not likely to reflect the public health benefits staff claim.

- P. 13:6-11: *"Now, after full implementation of the existing regulation in 2020, there are no additional measures on the books to continue reducing the remaining health benefits -- or sorry, the health burdens that are associated with our ocean-going vessels at berth."*

    - The suggestion that the existing regulation somehow would not continue to reduce health burdens and emissions after 2020 is just not true. The existing regulation imposes aggressive diesel engine operational time limits and emission reduction requirements that apply indefinitely, and those limits and reductions have gotten more and more stringent over the past 10 years.

    - Electricity provided to vessels at berth must meet minimum NOx, PM and CO emissions standards. Vessels visiting a terminal equipped to provide compatible shore power must use that power in every visit to that berth. These are measures that will continue to yield health benefits well beyond 2020.

- P. 14:21-24: *"So through this extensive interaction, staff was able to craft a proposal that we believe is aggressive, yet technically feasible."* Also, p. 26:10-12: *"Now, technology manufacturers have assured CARB staff that there are engineering solutions for both ro-ro and tanker vessels."*

    - The technology providers may have assured staff that engineering solutions can be developed at some future date, but they have not stated that solutions currently exist or that implementation can be assured within the proposed timeline.

    - As WSPA has discussed with CARB staff on numerous occasions, the evidence demonstrates that implementing the necessary infrastructure at tanker terminals cannot be accomplished feasibly and safely within the rule's deadlines. Moreover, there is no way to know whether the proposal as currently designed is ultimately feasible without conducting a feasibility study.

List of Inaccurate CARB Staff and Public Statements
CARB Hearing on At Berth Regulation – Dec. 5, 2019

- PP. 25:24-25 to 26:1-6: "*So I also mentioned earlier that the proposed regulation also includes an interim evaluation in 2023. So staff have set ambitious implementation timelines for realizing the health benefits of this regulation as early as possible, but we also realize there may be some uncertainty with adapting these technologies for new vessel types and also with the infrastructure developments that may be required."*

    - This is not a matter of mere "uncertainty with adapting these technologies for new vessel types and also with the infrastructure developments that may be required." CARB staff have not established in the **first** instance that the current state of technology would even allow for tanker adoption at private marine terminals.

- P. 26:12-13: *"And shore power has actually been used on tanker vessels here in California."*

    - The evidence does not reflect that this has been done at scale anywhere for oil tankers calling on private marine terminals.

    - Other statements in the transcript itself rebut this. See p. 106 (POLB tanker demonstration is unique), p. 114 (Umenhofer response to Gioia), pp 118-119 (Brian McDonald response)

- P. 26:16-20: *"[S]taff have been able to analyze multiple terminal infrastructure projects really to assess the timelines that are required to complete existing projects. And we feel the timelines that are proposed here are aggressive but feasible."*

    - As industry has communicated to staff, the existing projects staff have looked at do not begin to reflect the massive and complex level of work that would be required at terminals to construct equipment that would even have a chance at meeting this regulation.

- P. 26:21-27:1: *"However, to address the uncertainty of the timelines for these new vessel types, CARB staff propose an interim evaluation in 2023 to assess the progress of adapting technology for new vessel types and also the necessary infrastructure improvement projects that might be going on."*

    - This proposed interim evaluation, not due until in 2023, would not "address the uncertainty of the timelines for these new vessel types." This is not just about "uncertainty of timelines"; this is about whether compliance with the regulation **as written** is feasible at all for marine terminals hosting oil tankers. The current regulation imposes hard deadlines for tanker compliance, regardless of the results of the interim evaluation. So terminals will be bound by those deadlines irrespective of the actual feasibility of these measures in that timeframe, and would be completely dependent on CARB choosing to adopt new deadlines, which this regulation would not require it to do.

    - Board member Gioia, on pp 153-154, expresses concern about long permitting time frames, referencing his own experience.

- P. 27:10-18: *"And most importantly, as seen here on slide 20, the health benefits of the proposed regulation outweigh the costs. And looking at real costs for the regulation, so in other words those costs that might be passed down to the consumer, we're looking at the total cost of the proposed regulation are expected to be minimal on a per unit basis, for example, less than one cent for a gallon of fuel."*

  Also, p. 28:9-12: *"So the projected NOx reductions of 46 percent and diesel PM reductions of 52 percent at full implementation of the proposal are shown here on slide 22."*

  Also, p. 28:19-29:1: *"Now, as a result of the projected emissions reductions achieved by staff's proposal, a reduction in potential cancer risk of 55 percent is projected for the ports of Los Angeles, Long Beach, and Richmond. And non-cancer related benefits are also expected in association with*

staff's proposal, including 16 avoided emergency room visits, 72 avoided hospital [ad]missions, and 230 avoided premature deaths."

- The evidence does not establish that the health benefits would outweigh the costs, as CARB staff consistently overstate the expected health benefit versus the baseline and understate the implementation costs to industry.

- P. 28:2-7: *"Now, an important highlight on this slide is the $10 million that CARB has earmarked for a capture and control system for tankers. Now, it's staff's intent that a tanker terminal would use these available funds to demonstrate capture and control technology use on tanker vessels here in California."*

  - The fact that CARB has earmarked this $10 million evidences that capture and control has not been demonstrated on tanker vessels, and belies the claim that stack capture and control has somehow already been shown to be feasible. Capture and control is not ready for field demonstration on tankers, and it would be unsafe to attempt one at this time.

  - Not only is a feasibility study required, but industry would need to first perform engineering to address the unique safety considerations of tankers and the diverse configurations of the worldwide tanker fleet. If the technology shows promise, it can lead to a field demonstration, but only as the final step.

- P. 30:23-31:2, 11-15: *"Now, staff is also proposing to develop a process for industry to pursue innovative emissions reductions concepts, if they can be proven to achieve extra or early emissions and exposure reductions in impacted port communities without a delay . . . Now, these concepts would be limited in duration and only acceptable until the infrastructure needed for the regulation is completed. They would not provide an out [from the] At Berth Regulation and the process would include an opportunity for public review."*

  Also, P. 49:24-50:5: *"BOARD MEMBER TAKVORIAN: So we can't have this temporary solution occurring and all the effort going into that and then the permanent solution fix being worked on afterwards? TRANSPORTATION AND TOXICS DIVISION CHIEF ARIAS: Correct. This is not in lieu of ultimate regulatory compliance."* Also see p. 174, *Takvorian: innovative alternatives shouldn't be a "way out";* and p. 183, *Mary Nichols, interim review should not provide "a potential off ramp."*

  - Industry was very clear with CARB staff that alternatives like those discussed would need to be **in lieu of** the proposed reduction requirements for tankers visiting terminals, not in addition to the regulation, or only available for the time needed to build infrastructure.

  - These statements reflect staff's assumption that, even if the emission capture and control technology is not feasible today, it will be in the future, so that alternatives or "innovative concepts" would only be necessary as a "bridge" to the ultimate control technology. But this is only an assumption; no evidence exists today that the currently proposed capture and control systems for tanker terminals would ever be reasonably safe and feasible. The rule needs to provide for permanent alternatives that can still accomplish the same reductions in mass emissions, but feasibly and more cost-effectively than the proposed rule.

- P. 37:5-9: *"So we would, at this point, as I think Nicole mentioned and there's a picture in one of the slides is that shore power has been and is in use at a terminal in Long Beach at T121. And so it's -- it is demonstrated to be effective for tankers."*

  - From POLB – T121 Marathon Terminal does have shore power capability that is being used by one tanker vessel, but that vessel is unique because it uses diesel electric engines. The rest of the fleet visiting the Port are not capable of shore power retrofits, as their boilers cannot be electrified.

List of Inaccurate CARB Staff and Public Statements
CARB Hearing on At Berth Regulation – Dec. 5, 2019

- P. 54:11-16: From Sara Rees: *"For ro-ro vessels, we are suggesting an earlier compliance date of 2023 instead of 2025 for the ports of Los Angeles and Long Beach. We're requesting this as ro-ro vessels have similar operational power requirements as container vessels and currently approved technologies can be utilized by these vessels."* Also p. 26:10-12: *"Now, technology manufacturers have assured CARB staff that there are engineering solutions for both ro-ro and tanker vessels."*

    - From POLB (p. 1): "The implication that RoRo vessels could utilize current emission capture and control technology is not true. The technology for RoRo vessels will need to be engineered to accommodate the greater reach requirements of the RoRo vessels and different stack configurations. A technology capable of scrubbing RoRo emissions has never been demonstrated to date."

- PP. 78:22-79:14: *"On the other hand, there are sites which can implement these requirements in a significantly shorter time. For example, there the Chevron's Long Wharf dock, which is leased from the State of California. Four hundred vessels a year, sometimes four at a time, dock there, running their auxiliary diesel engines 24 hours a day, and spewing diesel particulates borne by the prevailing wind directly into the City of Richmond. These vessels referred to as lighters by Chevron as -- but as tankers by a layman, are part of a shuffle of perhaps only a dozen different -- distinct vessels. Chevron, which has its own electric power plant and can provide electricity in any quantity, and of any type required to allow these ships to heat the crude oil and pump it up to the refinery without running their diesel engine. Chevron was asked to do this almost five years ago, during refinery modernization but refused to do so."*

    - This statement from a public commenter is false. Chevron's cogeneration cannot provide electricity in any quantity. The power demand to also provide power for all tanker operations at berth would well exceed the capacity of Chevron's cogeneration plant.

- P. 81-89: Staff describes the AMEC system, allegedly an existing feasible capture and control system. This is based on the Coalition for a Safe Environment comments.

    - WSPA understands that the system referenced is a capture and control system for container vessels located at the Port of Long Beach and has not been designed or tested for tankers.

- P. 145-147, in a response to a commenter who misunderstood the summary of CEQA impacts, Mary Nichols and CARB counsel appear to go too far and disavow CEQA.

    - WSPA might object that impacts to media other than air still need to be taken seriously and dealing with them through the project-level CEQA review is one of the key reasons that the deadlines are infeasible.

- P. 154-158; Board member Gioia is receptive to innovative alternatives whether reductions come from ship or on shore so long as additional in classic offset sense, pp. 158-159. See also Board members Balmes, Riordan, Mitchell on pp. 165-167, all of whom would be happy to see truck emission reductions. See also p. 140 where an EJ advocate supports alternative of truck electrification as a "tremendous opportunity."

    - If the terminal operators have implemented truck electrification or some other alternative to CARB's satisfaction, in the period beyond the deadlines while the feasibility of an at berth system is still being explored, there would be no reason to stop and undo the already working alternative and instead implement an at-berth control system, at a later date when doing so is feasible. Requiring this would be arbitrary and capricious double-counting, unnecessary to address a problem already offset by the alternative.

List of Inaccurate CARB Staff and Public Statements
CARB Hearing on At Berth Regulation – Dec. 5, 2019

- P. 168:17-23*: "In the course of developing this regulation, staff has done two things. One, in 2018, we did a technology assessment. And part of that technology assessment looked at different technologies, what they were feasible -- what -- how they were feasible, areas that they needed improvement. So that in itself was a portion of the feasibility study."*

    - CARB OGV Technology Assessment looked at the technologies available to date but did not include a formal engineering assessment to evaluate the readiness to control emissions from other vessel types.

- P. 169:9-21: "*And so in terms of a feasibility study, we feel that between those two documents that we have done a feasibility study. And we have found that these technologies, they exist already, they can be adapted to tankers. We do feel there are safety challenges that are going to have to be addressed during the design. There are going to be site-specific issues that need to be addressed during design and engineering. And so I think our position is that we have done a feasibility study. We need the regulatory certainty now to move into the process, where we're actually looking at design and site-specific engineering projects for these different tanker terminals."*

    - Staff has not done a robust feasibility assessment to date. The CARB berth analysis is not a technical document, but simply an aggregation of terminal operator and harbor pilot opinions, and Google Maps review. The berth analysis should have been based on an engineering assessment of the infrastructure required at the terminals. Also, costs used by CARB in the ISOR are based on conversations with technology developers, rather than real cost quotes.

Tab B

CALIFORNIA
AIR RESOURCES BOARD

DRAFT

TECHNOLOGY ASSESSMENT:
OCEAN-GOING VESSELS

May 2018

5. Emissions Reductions

Testing required by the At-Berth Regulation shows that these systems reduce over 80 percent NOx and 85 percent PM when connected to a vessel's auxiliary engine under approved operating parameters.

6. Next Steps to Demonstrate and Deploy Technology

Although these shore-based and barge-based emission control systems are effective at reducing PM and NOx emissions on container vessels, more testing is needed on other vessel types, including tankers, auto carriers, general cargo, and bulk cargo. Additional work with stakeholders is needed to identify and implement methods (e.g., incentives, regulations, and lease agreements) to encourage or require deployment of additional shore power or alternative shore power systems beyond what's needed to comply with CARB's At-Berth Regulation.

F. Alternative Supplemental Power

An emerging area of research and demonstration are technologies to provide alternative supplemental power to replace or augment the power produced by diesel engines on OGVs. As discussed, solar, wind, and fuel cells are all potential technologies to provide supplemental clean power to OGVs.

Solar/Battery Electric

1. Technology Description

Solar panels are emerging as a functional power source on land. Currently, solar panels are being tested to see if the move to a marine environment can be successful. While solar panels cannot provide enough power to completely replace a diesel engine on a ship, they do have the potential to replace a portion of a vessel's energy needs, resulting in fuel savings. Solar panels coupled with an on-board electric motor could result in clean emission free electricity for the vessel to use at sea or in port.

2. System/Network Suitability and Operational/Infrastructure Needs

There are two major obstacles to solar power on vessels. Solar panels take a significant amount of space on-board vessels. Because of this, application is currently limited to vessels that have space on deck such as tankers or Ro-Ros. Additionally, solar panels only produce power when there is sunlight, and a back-up power source, such as a diesel engine or battery back-up system, is needed for inclement weather or night time use. Battery technologies are also expensive and would require significant space on-board to store sufficient back-up power for vessels.

A 2009 IMO GHG study evaluated a hypothetical tanker that had the entire deck covered with solar panels. Solar efficiencies were estimated at 13 percent (current average), 30 percent (current most efficient systems), and 60 percent (future most

Tab C

State of California
AIR RESOURCES BOARD

PUBLIC HEARING TO CONSIDER THE PROPOSED CONTROL MEASURE FOR OCEAN-GOING VESSELS AT BERTH

STAFF REPORT: INITIAL STATEMENT OF REASONS

DATE OF RELEASE: OCTOBER 15, 2019
SCHEDULED FOR CONSIDERATION: DECEMBER 5, 2019

Location:

DeFremery Park Recreation Center
1651 Adeline Street
Oakland, California 94607

typically include a feasibility study; design and engineering of equipment; bidding and contracting; permitting; fabrication of materials; construction; audits and inspections; and testing and commissioning of the equipment. Some of these steps in a project can be completed simultaneously, while others must occur linearly after the completion of certain steps. For example, some permitting can begin after a percentage of the design work is done.[178]

The projects evaluated by CARB staff indicated a range of time to complete different tanker terminal upgrade projects, with permitting being one of the primary drivers for schedule variations. Staff assessment indicates the permitting process alone can extend as long as three years for large projects; this is particularly true at Northern California, as numerous state and local agencies (such as the California State Lands Commission, the San Francisco Bay Conservation and Development Commission, and California Department of Fish and Wildlife, among others) may be involved in the permitting process.[179]

2) Phase-In Dates for Northern and Southern California Tanker Terminals

Staff proposed to split the implementation schedule into two phases for tankers. Tanker terminals at POLA and POLB would phase in first in 2027 due to fewer infrastructure upgrade challenges. The earlier date for POLA and POLB tanker terminals also highlights the pressing need for NOx reductions in the South Coast Air Basin. All other tanker terminals including the Northern California terminals would be scheduled to phase in at 2029. Combining the challenges of installing significant infrastructure and unique permitting requirements placed on terminals in the San Francisco Bay region, a longer timeline is expected for any infrastructure project being undertaken for the Northern California tanker terminals.

Regardless of location, safety studies need to be performed to ensure all safety consideration are met, given that the tanker vessels carry explosive cargos. In addition, comprehensive site-specific engineering and design work needs to be accomplished prior to implementation.

A staggered implementation schedule also seeks to reduce the burden on emissions control technology providers and contractors that specialize in wharf improvements, as bringing all tanker terminals and ro-ro terminals in at the same time would stress the ability of the existing equipment manufacturers to design, build, and deploy their systems, and would likely result in backorders and delays.

E. Interim Evaluation

The dates reflected in Table III-5 represent the earliest timeframe that staff has determined is technically feasible for implementation. However, continuous evaluation

[178] Phone conversation with Marathon Petroleum staff on June 6, 2019.
[179] Phone conversation with California State Lands Commission staff on March 27, 2019.

Tab D

APPENDIX A [Official]

PROPOSED REGULATION ORDER

Amend title 13, division 3, chapter 5.1, section 2299.3; and title 17, division 3, chapter 1, subchapter 7.5, section 93118.3; California Code of Regulations (CCR), and

Adopt new title 17, division 3, chapter 1, subchapter 7.5, sections 93130-93130.20, CCR, to read as follows:

(Note: The proposed amendments to title 13, section 2299.3 and title 17, section 93118.3 are shown in underline to indicate additions and strikeout to indicate deletions from the existing regulatory text. The symbol "***" means that intervening text not amended is not shown. The entire text of sections 93130 through 93130.20 set forth below is new language in "normal type" proposed to be added to title 17, CCR.)

Section 2299.3. Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in a California Port.

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(c) On January 1, 2021, section 93118.3 of title 17 of the California Code of Regulations shall be superseded by sections 93130 through 93130.20 of title 17 of the California Code of Regulations, as specified in section 93130. However, if sections 93130 through 93130.20 collectively are repealed or deemed invalid in their entirety by a final court decision, the requirements of section 93118.3 of title 17 of the California Code of Regulations shall again become operative. This subsection shall not be construed as expanding or limiting either the application or requirements of sections 93130 through 93130.20, title 17, CCR, but is intended to alert affected persons of the requirements regarding the operation of auxiliary diesel engines on ocean-going vessels at-berth in a California port and other provisions in that section.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93118.3. Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in a California Port.

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(b) Applicability and General Exemptions.

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(4) On January 1, 2021, this section 93118.3, and section 2299.3 of title 13 of the California Code of Regulations, shall be superseded by sections 93130 through 93130.20 of title 17 of the California Code of Regulations, as specified in section 93130. However, if sections 93130 through 93130.20 collectively are repealed or deemed invalid in their entirety by a final court decision, the requirements of section 93118.3 of title 17 and section 2299.3 of title 13 of the California Code of Regulations shall again become operative. This section shall not be construed as expanding or limiting either the application or requirements of sections 93130 through 93130.20, title 17, CCR, but is intended to alert affected persons of the state's requirements regarding ocean-going vessels, ports, terminals, berths, and emission control strategies for ocean-going vessels.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130. Control Measure for Ocean-Going Vessels At Berth.

The Control Measure for Ocean-Going Vessels At Berth is set forth in sections 93130 through 93130.20, title 17, California Code of Regulations, and is referenced as the "Control Measure" within those sections.

On January 1, 2021, the requirements of this Control Measure shall supersede the requirements of section 93118.3 of title 17 and section 2299.3 of title 13 of the California Code of Regulations. However, the reporting and recordkeeping requirements of section 93118.3 (g) of title 17 shall remain in effect for compliance years through 2020. The annual statements of compliance for 2020 in section 93118.3 (g)(1)(A)(2) and (g)(2)(A)(3) are still due to the Executive Officer on March 1, 2021. Annual wharfinger data from the ports under section 93118.3 (g)(3) is still due to the Executive Officer on April 1, 2021. Compliance records in section 93118.3 (g)(1)(B), (g)(2)(B), and (g)(3)(B) are still required to be maintained for 5 years, through December 31, 2025.

As specified in section 93130.20, the individual provisions in this Control Measure are severable. However, if sections 93130 through 93130.20 collectively are repealed or deemed invalid in their entirety by a final court decision, the requirements of section 93118.3 of title 17 and section 2299.3 of title 13 of the California Code of Regulations shall again become operative.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.1. Purpose and Intent.

The purpose of this Control Measure is to reduce oxides of nitrogen (NOx), reactive organic gasses (ROG), particulate matter (PM), diesel particulate matter (DPM), and greenhouse gas (GHG) emissions from ocean-going vessels while docked at berth at California ports. This Control Measure also ensures that

ocean-going vessels do not create excess visible emissions. California's ocean-going vessel operations are largely situated in and around at-risk communities that directly benefit from localized reductions of NOx and PM. This contributes to meeting community health goals set forth in Assembly Bill 617 (Garcia, Stats. 2017, ch. 136). Furthermore, NOx and PM emission reductions contribute to meeting California's State Implementation Plan obligations for attainment, and further CARB's obligations under sections 39660 et seq. and 43013 et seq. of the Health & Safety Code. Additionally, reductions from shore power have a benefit of reducing GHG emissions. This contributes to meeting California's GHG emission reduction targets established in Assembly Bill 32 (Nunez, Stats. 2006, ch. 488) and Senate Bill 32 (Pavley, Stats. 2016, ch. 249).

The intent of this Control Measure is to ensure that emissions from ocean-going vessels are reduced using a California Air Resources Board (CARB) approved emission control strategy to control PM, NOx, and ROG emissions at berth without increasing overall GHG emissions from this Control Measure, and that every ocean-going vessel meets visible emission standards at berth and at anchor. All parties necessary to achieving emission reductions from ocean-going vessels at berth have responsibilities and requirements under this Control Measure including but not limited to vessel operators, terminal operators, ports, and operators of CARB approved emission control strategies.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.2. Section Summary, and Definitions.

(a) Section summary.

(b) Definitions.

The definitions in Health and Safety Code sections 39010 through 39060 shall apply to this Control Measure, except as otherwise specified in this section.

(1) "Alternative Control Technologies" means technologies, techniques, or measures that reduce the emissions of NOx, PM, ROG, or GHG from an auxiliary engine and/or tanker auxiliary boiler other than shutting it down and operating on shore power.

(2) "Anchorage" means a vessel's allotted place to moor in place or drop anchor in California waters.

(3) "Applicant" means any person who requests an approval from CARB for an emission control strategy.

(4) "Application" means a formal request from an applicant using the process outlined in section 93130.5 of this Control Measure.

(5) "Articulated Tug Barge" means a tanker barge that is mechanically linked with a paired tug that functions as one vessel. For the purposes of this Control Measure, articulated tug barges are not considered ocean-going vessels.

(6) "Auxiliary Boiler" means a steam generator on an ocean-going vessel designed primarily to provide steam for uses other than propulsion or pumping cargo.

(7) “Auxiliary Engine” means an engine on an ocean-going vessel designed primarily to provide power for uses other than propulsion, except that all diesel-electric engines shall be considered “auxiliary engines”.

(8) “Berth” means a vessel's allotted place at a wharf, pier, or dock. This does not include anchorages such as at the off-shore tanker terminal at El Segundo, or where passenger vessels tender at anchor such as at Santa Barbara, or Catalina.

(9) “Bulk Vessel” means a self-propelled ocean-going vessel constructed or adapted primarily to carry unpackaged dry bulk cargo. A bulk vessel may use vessel-based or shore-based equipment for loading and discharging of cargo.

(10) “Calendar Year” means the time period beginning on January 1 through December 31 of a single year.

(11) “California Ports (Ports)” means any port or independent marine terminal in California that receives an ocean-going vessel including:

(A) Landlord ports where the port owns the wharves which it rents or leases to a terminal operator;

(B) Operational ports where the port functions as a terminal operator; and

(C) Independent marine terminals.

(12) “California time aggregate method” means the California State Implementation Plan method of calculating opacity emissions. The California time aggregate method is virtually identical to United States Environmental Protection Agency method 9 in the procedures the observer follows, but most notably differs in that the data is analyzed by counting the readings that exceeded the limit, rather than averaging all readings in a set.

(13) “CARB” means the California Air Resources Board.

(14) “CARB Approved Emission Control Strategy (CAECS)” means a method of reducing emissions from an ocean-going vessel at berth to a satisfactory level for compliance with the Control Measure and is verified and approved by CARB.

(15) “CARB Approved Emission Control Strategy Operator” means any party who operates a CARB approved emission control strategy to reduce emissions for compliance with this Control Measure.

(16) “Charter” or “Charter Agreement” means an agreement or contract where one person rents, leases, hires, or uses ocean-going vessels from another person to convey or transport goods or passengers to one or more designated locations.

(17) “Charter Company” means any person that is in the business of leasing, renting, or lending ocean-going vessel(s) to other companies or persons to convey or transport goods or passengers to one or more designated locations.

(18) “Commissioned Shore Power Vessel” means a shore power equipped vessel that visits a compatible shore power berth at a terminal and has completed vessel commissioning at that terminal.

(19) “Container Vessel” means a self-propelled ocean-going vessel constructed or adapted primarily to carry uniformly sized ocean freight containers.

(20) “Diesel-Electric Engine” means a diesel engine connected to a generator that is used as a source of electricity for propulsion or other uses.

(21) “Diesel Engine” means an internal combustion, compression-ignition engine with operating characteristics substantially similar to the theoretical diesel combustion cycle. Regulating power by controlling fuel supply in lieu of a throttle indicates a compression ignition engine.

(22) “Diesel Particulate Matter (DPM)” means the particles found in the exhaust of diesel engines, which may agglomerate and adsorb other species to form structures of complex physical and chemical properties.

(23) “Distributed Generation” means electrical generation technologies that produce electricity near the place of use.

(24) “Docked at Berth (at berth)” means the state of being secured to a berth.

(25) “Executive Officer” means the Executive Officer of CARB, or his or her designee.

(26) “Excess Emissions” means air pollution emitted by a vessel at berth during a time period when the vessel operator is required to reduce emissions, but does not achieve the full required reductions.

(27) “Exception” means a situation that results in a compliant visit with or without emission reductions.

(28) “First Line” means the time when a vessel’s line is first attached to a berth in the process berthing the vessel.

(29) “Fleet” means a group of vessels of the same vessel type that have agreed to utilize their combined Vessel Incident Events (VIEs) at a port or marine terminal. Vessel operators designate their fleet in the vessel visit reporting.

(30) “Foreign-flag Vessel” means any vessel of foreign registry including vessels owned by United States citizen(s) but registered in a nation other than the United States.

(31) “General Cargo Vessel” means a self-propelled ocean-going vessel constructed or adapted primarily to carry cargo that must be loaded individually, and that may or may not be in uniform-sized ocean freight containers. May use vessel-based or shore-based equipment for loading and discharging of cargo.

(32) “Government or Military Vessel” means vessels operated by any branch of local, state, federal government military service, or by a foreign government, when such vessels are operated on government or military non-commercial service. This definition includes Coast Guard vessels. A commercial vessel that also carries some military cargo is not a government or military vessel unless the military is the vessel operator.

(33) “Greenhouse Gas” (GHG) means carbon dioxide (CO2), methane (CH4), nitrogen trifluoride (NF3), nitrous oxide (N2O), sulfur hexafluoride (SF6), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and other fluorinated greenhouse gases.

(34) “Grid-neutral” means emitting no more GHG emissions than if the strategy were powered by the California grid as represented in the most recent eGRID Summary Table for State Output Emission Rates as the California CO2e emissions rate.

(35) “Independent Marine Terminal” means a terminal that operates independently from a port or port authority. An Independent Marine Terminal has all the responsibilities of a terminal and a port.

(36) “Last line” means when the time when the vessel is untied from the berth and the last line from the berth to the vessel is released.

(37) “Lease” means a contract where one person conveys property or services to another person for a specific duration.

(38) “Low Activity Terminal” means a terminal that has not previously exceeded the terminal thresholds in section 93130.10(a) of this Control Measure.

(39) “Marine Gas Oil (MGO)” means any fuel that meets all the specifications for DMX or DMA grades as defined in Table I of International Standard ISO 8217, as revised on November 1, 2005, which is incorporated herein by reference, or DMX, DMA, or DMZ grades as defined in Table I of International Standard ISO 8217, as revised on June 15, 2010, which is incorporated herein by reference.

(40) “Master” means the person who operates an ocean-going vessel or is otherwise in charge of the vessel’s operations.

(41) "Malfunction" means any sudden and unavoidable failure to operate in a normal manner by air pollution control equipment that is not caused in any way by poor maintenance, negligent operation, or any other reasonably preventable upset condition or equipment breakdown.

(42) “Ocean-Going Vessel” means a commercial, government, or military vessel, excluding articulated tug barges, meeting any of these criteria:

(A) A vessel greater than or equal to 400 feet in length overall as defined in 50 CFR § 679.2, as adopted June 19, 1996;

(B) A vessel greater than or equal to 10,000 gross tons under the convention measurement (international system) as defined in 46 CFR § 69.51-.61, as adopted September 12, 1989; or

(C) A vessel propelled by a marine compression ignition engine with a per-cylinder displacement of greater than or equal to 30 liters.

(43) “Own” means having the incidents of ownership, including the legal title whether or not that person lends, or pledges an item; having or being entitled to the possession of the item as the purchaser under a conditional sale contract; or being the mortgagor of an item.

(44) “Oxides of Nitrogen (NOx)” means compounds of nitric oxide (NO), nitrogen dioxide (NO_2), and other oxides of nitrogen, which are typically created during combustion processes and are major contributors to smog formation and acid deposition.

(45) “Particulate Matter (PM)” means any airborne finely divided material, except uncombined water, which exists as a liquid or solid at standard conditions (e.g., dust, smoke, mist, fumes, or smog).

(46) “Particulate Matter 2.5 (PM2.5)” means any particulate matter with a diameter of less than 2.5 micrometers.

(47) “Passenger Vessel” means a self-propelled vessel constructed or adapted primarily to carry people.

(48) “Person” has the same meaning as set California Code, Health and Safety Code section 39047.

(49) “Physical Constraint” at a terminal means an unavoidable barrier to provide a service due to the layout of a terminal or waterway where a state or federal public agency with jurisdiction over the resources effected by this Control Measure has made a safety determination that prevents the use of a CARB approved control strategy.

(50) “Pilot on Board” means the vessel’s pilot has boarded the vessel to assume navigational control to prepare for vessel departure.

(51) “Port” see California Port.

(52) “Previously Unregulated Vessels” means container, refrigerated cargo, or passenger vessels that were part of a fleet before January 1, 2021 where the fleet did not exceed the annual visit thresholds specified in California Code of Regulations, title 17, section 93118.(b)(3)(E) for any year between 2014 and 2020 or the vessel is a steamship.

(53) “Privately Owned United States Flag Commercial Vessel” means a vessel:

(A) registered and operated under the laws of the United States,

(B) used in commercial trade of the United States,

(C) owned and operated by United States citizens, including a vessel under voyage or time charter to the Government, and

(D) a Government-owned vessel under bareboat charter to, and operated by, United States citizens.

(54) “Reactive Organic Gases (ROG)” has the same meaning as set forth in subsection (a)(23) of section 2752 of title 13 of the California Code of Regulations.

(55) “Ready to Work” means that the vessel is tied to the berth, the gangway has been lowered with netting down, and the United States Coast Guard, United States Customs and Border Protection, and other government authorities have cleared the vessel.

(56) “Refrigerated Cargo Vessel” (commonly known as “reefer”) means a self-propelled vessel constructed or adapted primarily to carry refrigerated cargo. Refrigerated cargo vessels include vessels where the cargo may be stored in large refrigerated rooms within the vessel or vessels that primarily carry refrigerated cargo containers.

(57) “Regulated California Waters” means any and all of the following:

(A) All California internal waters;

(B) All California estuarine waters;

(C) All California ports, roadsteads, and terminal facilities (collectively “ports”);

(D) All waters within 3 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;

(E) All waters within 12 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;

(F) All waters within 24 nautical miles of the California baseline, starting at the California-Oregon border to 34.43 degrees North, 121.12 degrees West; inclusive; and

(G) All waters within the area, not including any islands, between the California baseline and a line starting at 34.43 degrees North, 121.12 degrees West; thence to 33.50 degrees North, 118.58 degrees West; thence to 32.65 degrees North, 117.81 degrees West; and ending at the California-Mexico border at the Pacific Ocean, inclusive.

(58) “Remediation Fund” means an account established by a CARB-approved fund administrator under the terms of a Memorandum of Understanding with CARB to provide incentive monies to activities that achieve emission reductions, not otherwise required by law or regulation, in communities impacted by excess emissions from vessels at berth.

(59) “Responsible Official” means any person(s) with the authority to determine the existence of emergency and safety events, and to substantiate that a vessel, terminal, port, or control equipment complies with requirements of this Control Measure.

(60) “Responsible Party” means any person with an obligation under this Control Measure.

(61) “Roll-On/Roll-Off Vessel” (commonly known as “ro-ro”, “auto”, or “vehicle carrier”) means a self-propelled vessel constructed or adapted primarily to carry wheeled cargo that can be rolled on and off. Ro-ro vessels may carry exclusively automobiles (commonly known as a “pure car carrier”) and/or a mixture of bulk equipment on wheels.

(62) “Safety and Emergency Events” means an event where a responsible official reasonably determines that compliance with this Control Measure would endanger the safety of the vessel, crew, cargo, passengers, terminal, or terminal staff because of severe weather conditions, a utility event, or other extraordinary reasons beyond the control of the terminal operator or vessel operator.

(63) "Selective Catalytic Reduction (SCR)" means an emission control system that reduces NOx emissions through the catalytic reduction of NOx in diesel exhaust by injecting nitrogen-containing compounds into the exhaust stream, such as ammonia or urea.

(64) “Shore Power” refers to electrical power being provided by either the local utility or by distributed generation to a vessel at berth.

(65) “Tanker Auxiliary Boiler” means a steam generator on a tanker vessel used to offload liquid product.

(66) “Tanker Vessel” means a self-propelled vessel constructed or adapted primarily to carry liquid bulk cargo. Tanker vessels may carry petroleum crude, petroleum products, or non-petroleum based products, and are classified as either non-edible and dangerous or edible and non-dangerous.

(67) “Terminal” means a terminal operator’s facility consisting of adjacent wharves, piers, docks, other berthing locations and storage, which are used primarily for loading and unloading of passengers, cargo or material from vessels or for the temporary storage of this cargo or material on-site. Operational ports that rent a berth to vessel operators rather than lease to terminal operators shall treat that berth as a terminal.

(68) “Terminal Incident Event (TIE)” is an exception provided to terminal operators to allow for a limited number of incidents where a vessel does not reduce emissions as required during a visit.

(69) “Terminal Operator” means a person who leases terminal property from a port to load and unload passengers, cargo or material from vessels or for the temporary storage of this cargo or material on-site. Operational ports that use a single berth to service an individual customer are the terminal operator and the customer’s berth is a terminal.

(70) “This Control Measure” means the Control Measure for Ocean-Going Vessels At Berth, California Code of Regulations, title 17, sections 93130-93130.20.

(71) “Utility” shall have the same meaning and be used interchangeably with the term “Electric Utility” and means any person engage in or, or authorized to engage in, generating, transmitting, or distributing electric power by any facilities, including, but not limited to, any such person who is subject to the regulation of the Public Utilities Commission. Pub. Resource Code, section 25108 as it read on January 7, 1975.

(72) “Utility Event” means the period of time during which any of the following events occurs; the utility event begins when such an event begins and ends when the event is over:

(A) The utility serving the port or terminal cannot provide electrical power to the port because of a failure of equipment owned and maintained by the utility, a transmission emergency, distribution emergency, a California Independent System Operator (CAISO) or Los Angeles Department of Water and Power (LADWP) Stage 3 emergency, or the utility needs to reduce power to the port and/or terminal because of a sudden and reasonably unforeseeable natural disaster, such as, but not limited to, an earthquake, flood, or fire; or

(B) When the utility providing electrical power notifies the terminal operator(s) to reduce the use of grid-based electrical power in response to a transmission or distribution emergency, a CAISO or LADWP Stage 3 emergency, or to avoid a Stage 3 emergency if one is anticipated. The emergency event ends when CAISO or LADWP cancels the Stage 3 emergency or the utility notifies the terminal operator(s) that reduction in the use of grid-based electrical power is no longer necessary. The port may contact the terminal operator(s) on behalf of the utility if such an agreement exists between the utility and the port.

(73) “United States flag Vessel” when used independently means either a United States government vessel or a privately owned United States flag commercial vessel.

(74) “Vessel” means watercraft used, or capable of being used, as a means of transportation. For the purposes of this Control Measure, “vessel” is used interchangeably with the term “ocean-going vessel.”

(75) “Vessel Arrival” means the date and time that a vessel is initially tied to a berth with first line.

(76) “Vessel Commissioning” means the process undertaken by the vessel operator and terminal operator to ensure that the shore power equipment on the vessel is compatible with the shore power equipment on the terminal and that there are no safety issues for both the equipment and the personnel handling the connection.

(77) “Vessel Departure” means the date and time that the a vessel casts off the last line.

(78) “Vessel Incident Event (VIE)” is an exception provided to vessel fleets to allow for a limited number of incidents where a vessel operator does not reduce emissions as required during a vessel visit.

(79) “Vessel Operator” means any person who decides where a vessel is to call or who is in direct control of the vessel. The party in direct control of the vessel may be a third-party hired to carry cargo or passengers for the person under a charter agreement to operate the vessel. Direct control does not include the vessel master or any other member of the vessel crew, unless the vessel master or crew member is also the owner of the vessel or decides where a vessel is to call.

(80) “Vessel Owner” means any party with an ownership interest in the vessel. The owner may be an individual or multiple parties.

(81) “Vessel Type” means a categorization of ocean-going vessels distinguished by the main cargo the vessel carries into the following types: bulk/general cargo, container, passenger, refrigerated cargo, ro-ro, and tanker vessels.

(82) “Visible Emissions” means any particulate or gaseous matter which can be detected by the human eye.

(83) “Visit” means the time period from when the vessel is “Ready to Work” to “Pilot on Board”.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.3 Applicability.

(a) General applicability.

Except as provided in section 93130.4 Exceptions, this Control Measure applies to:

(1) any person who owns, operates, charters, or leases any United States or foreign-flag ocean-going vessel that visits a California port, terminal, or berth;

(2) any person who owns, operates, or leases a port, terminal, or berth located where ocean-going vessels visit; and

(3) any person who owns, operates, or leases CARB approved emission control strategy for ocean-going vessel auxiliary engines or tanker auxiliary boilers.

All responsible parties may be held jointly and severally liable.

(b) Federal requirements.

Nothing in this Control Measure shall be construed to amend, repeal, modify, or change any applicable federal regulations, including any United States Coast Guard regulations or requirements. Any person subject to this Control Measure shall ensure compliance with both federal regulations (including any United States Coast Guard regulations) and the requirements of this Control Measure, including but not limited to, where applicable, obtaining any necessary approvals, exceptions, or orders from the United States Coast Guard. To the extent any requirements in this Control Measure conflict with any applicable federal regulation, the requirements of the federal regulation shall prevail.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.4 Exceptions.

The requirements of this Control Measure do not apply to:

(a) Non-stop voyages.

(1) Ocean-going vessel voyages that do not stop at a California port, terminal, or berth including:

(A) Stopping and anchoring required by the United States Coast Guard;

(B) Stopping necessary due to force majeure or distress as defined in the “Responsibility of States for Internationally Wrongful Acts (2001)”, which is incorporated herein by reference; or

(C) A stop made solely to render assistance to persons, vessel, or aircraft in danger or distress.

(2) The following voyages are considered a “stop” and do not qualify for the exemption:

(A) Innocent passage of an ocean-going vessel that engages in any of the prejudicial activities specified in United Nations Convention on the Law of the Seas 1982, Article 19, subpart 2 as it read on November 16, 1994; or

(B) The passage of vessel(s) that are otherwise scheduled or intended to call at a port or terminal facility for any reasons other than the three enumerated reasons listed in subsection (a)(1).

(b) Government and military vessels.

The requirements of this Control Measure do not apply to government or military vessels. However, government or military vessels are encouraged to act in a manner consistent, as far as is reasonable and practicable, with this section.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.5 CARB Approved Emission Control Strategy.

(a) Executive Order requirement.

No person may operate an emissions control strategy, other than shore power, at a port or terminal for compliance with this Control Measure unless it receives approval by CARB through an Executive Order. The Executive Order shall provide compliance instructions for each emission control strategy and include requirements that each responsible party must follow in order to use that strategy.

(b) Requirement to reduce emissions.

The emission control strategy must reduce emissions for vessel visits, unless:

(1) The visit is subject to an exception in sections 93130.4, 93130.8, or 93130.10 of this Control Measure; or

(2) The person uses a TIE or a VIE for the visit as provided in section 93130.11 of this Control Measure; or

(3) The person pays the remediation fund payments for the visit or portion of a visit as provided in section 93130.15 of this Control Measure; or.

~~(3)~~(4) The person has implemented emission reductions as provided in sections 93130.5(d)(7).

(c) Shore power.

Shore power is a CARB approved emission control strategy. If distributed generation is used to supply shore power, the electricity generated must meet the following emissions standards:

(1) NOx emissions no greater than 0.03 gram per kilowatt-hour (g/kW-hr);
(2) PM emissions equivalent to the combustion of natural gas with a fuel sulfur content of no more than 1 grain per 100 standard cubic foot
(3) Distributed generation GHG emissions must be grid-neutral; and
(4) Ammonia emissions no greater than five parts per million on a dry volume basis (ppmdv), if selective catalytic reduction (SCR) is used.

(d) Requirements for CARB approval of an emission control strategy.

(1) Emission Reductions

Except as provided in Section 95130.5(d)(7), ~~T~~to receive CARB approval, a person must demonstrate that the emission controls strategy achieves emission rates less than 2.8 g/kW-hr for NOx, 0.03 g/kW-hr for PM2.5, and 0.1 g/kW-hr for ROG for auxiliary engines. Additionally, for strategies approved after 2020, GHG emissions from the strategy must be grid-neutral for the year that the technology is granted an Executive Order. Default emission rates of auxiliary engines on ocean-going vessels are 13.8 g/kW-hr for NOx, 0.17 g/kW-hr for PM2.5, and 0.52 g/kW-hr for ROG.

(2) Tanker Vessels.

Except as provided in 95130.5(d)(7), ~~F~~for tanker vessels with steam driven pumps, unless the tanker is using shore power to reduce emissions from auxiliary engines, a person must demonstrate that the CARB approved emission control strategy achieves emission rates less than 0.4 g/kW-hr for NOx, 0.03 g/kW-hr for PM2.5, and 0.02 g/kW-hr for ROG for tanker auxiliary boilers. Default emission rates of tanker auxiliary boilers on ocean-going vessels are 2.0 g/kW-hr for NOx, 0.17 g/kW-hr for PM2.5, and 0.11 g/kW-hr for ROG

(3) Already approved strategies

Where CARB has already issued an Executive Order for strategies under California Code of Regulations, title 17, section 93118 (e)(4), these are approved as a CARB approved emission control strategy. These strategies can operate under their Executive Order until 2025 before a person needs to apply for an extension in section 93130.5 (i)(1) of this Control Measure and demonstrate the strategies ability to meet all the requirements of this section including being grid neutral.

(4) SCR Strategy

Emission control strategy utilizing SCR shall have ammonia slip no greater than 5 ppmdv, and shall continuously test ammonia slip and NOx

(5) Warranty

The applicant must provide a warranty that meets the following:

(A) The manufacturer of each emission control strategy shall warrant for 10 years when a unit is purchased that the strategy is:
  i. Designed, built, and equipped to conform, at the time of sale, with this Control Measure; and
  ii. Free from defects in materials and workmanship which cause the failure of a warranted part to no longer be identical in all material respects to that part as described in the manufacturer's application for certification.

(B) The applicant of the emission control strategy system shall provide the end user with maintenance practices set forth by the manufacturer.

(6) When a person sells or leases a unit, the person must conduct in-use compliance testing of the strategy to demonstrate that the expected percentage of emissions reductions being achieved. The person must report the results to the Executive Officer within 30 days. If testing shows the unit does not meet the emission requirements set forth in section 93130.5 (d)(1) the unit cannot be used to satisfy the emission requirements of this regulation.

(7) Alternative Emission Reduction Strategy

(a) As an alternative to meeting the requirements in subsections (d)(1) and (d)(2) above, upon approval of the Executive Officer, a person subject to the requirements of this section may apply for and implement an Alternative Emission Reduction Strategy. At a minimum, the Alternative Emission Reduction Strategy must contain provisions meeting the following requirements:

i. By no later than the compliance dates in section 95130.7(b) and 95130.7(c), the applicant shall fully implement measures to reduce NOx, ROG and PM2.5 emissions from vessels operating in Regulated California Waters and/or from onshore sources with emissions originating within 5 miles of the port or terminal.

ii. The NOx, ROG and PM2.5 emission reductions achieved under the Alternative Emission Reduction Strategy shall be calculated as the difference between baseline year mass emissions of NOx, ROG and PM2.5 from the applicant's sources covered in the Strategy, and emissions that would have occurred from those same sources in that baseline year emissions if the Alternative Emission Reduction Strategy had been in place that year. The baseline year shall be based on best available emissions data from 2016 or a representative alternative year, subject to approval by the Executive Officer.

iii. The NOx, ROG and PM2.5 emission reductions to be achieved under the Alternative Emission Reduction Strategy must achieve either (1) no less than an 80% reduction versus baseline year emissions, or (2) reductions no less than the difference between the applicant's at-berth vessel emissions in the baseline year and at-berth vessel emissions that would have been realized that same baseline year if the applicant had met the NOx, ROG and PM2.5 emission rates in subsections (d)(1) and (d)(2).

~~i.~~iv. All emissions reductions to be achieved by the Alternative Emission Reduction Strategy must be real, permanent, quantifiable, enforceable and surplus to any NOx, ROG and PM2.5 reductions already required by existing U.S. law or regulation in effect as of December 31, 2016.

(e) Application process.

(1) Before submitting an application requesting approval from CARB for an emission control strategy, an applicant shall submit a test plan to the Executive Officer for conducting the emissions reduction testing, durability testing, and a timeline for testing.

(2) The applicant shall submit an application that includes all source test data only after the applicant receives CARB approval for the test plan.

(3) If the Executive Officer approves of the application, the applicant's strategy will be considered a "CARB approved emission control strategy" and shall become a compliance option for the type(s) of vessel visits for which the emission control strategy is approved, when used in a manner that is consistent in accordance with all the conditions of the approval.

(f) Test plan requirements.

(1) A test plan shall include:

(A) The contact persons, phone numbers, names, and addresses of person submitting the test plan.

(B) Description of the emission control strategy's principles of operation. A schematic depiction of the components and operation must be included. It is the responsibility of the applicant to demonstrate that the qualifying strategy relies on sound principles of science and engineering to achieve emission reductions.

(C) Description of testing to be conducted to demonstrate emission reductions and durability.

(D) Timeline for all emissions reduction testing and durability testing, including an estimate for the testing's duration and the number of vessel visits needed to complete proposed testing.

(2) Durability.

The applicant of an emission control strategy shall demonstrate, to the satisfaction of the Executive Officer, the durability of the applicant's emission control strategy through an actual field demonstration. If the applicant has demonstrated the durability of the equipment (identical in design and components) in a prior verification or has demonstrated durability through field experience, the applicant may request that the Executive Officer accept the previous demonstration in fulfillment of this requirement. In evaluating such a request, the Executive Officer may consider all relevant information including, but not limited to, the similarity of baseline emissions and application duty cycles, the relationship between the emission control group used in previous testing and the current emission control group, the number of engines tested, evidence of successful operation and user acceptance, and published reports.

(3) Test plan disapproval.

If, after reviewing the test plan, the Executive Officer determines that the applicant has not made a satisfactory demonstration that its strategy relies on sound principles of science and engineering to achieve emission reductions at the rates required for certification or if the test plan is incomplete, the Executive Officer shall notify the applicant of the disapproval in writing within 30 calendar days of receiving the test plan. The applicant may choose to withdraw from the application process or submit additional materials and clarifications.

(4) Test plan approval.

Within 45 calendar days after determining the test plan is satisfactory, the Executive Officer shall issue a test plan approval letter to the applicant.

(g) Source testing.

A person shall use source testing to demonstrate that a proposed emission control strategy achieves the performance standards in section 93130.5 (d) of this Control Measure. Testing must be done by certified third party source testers specified in the test plan. Alternative test methods or emission verifications may be used when specified in the test plan upon written approval from the Executive Officer. The following requirements shall apply to source testing conducted under this Control Measure, unless the Executive Officer has provided written approval of alternative applicable test methods or emission verifications specified in the test plan:

(1) NOx, N2O, CO2, CO, CH4, and Diesel PM or PM10, shall be measured using ISO 8178 Test Procedures: ISO 8178-1: August 15,1996(E) ("ISO 8178 Part 1"); ISO 8178-2: August 15, 1996(E) ("ISO 8178 Part 2"); and ISO 8178-4: August 15, 1996(E)

("ISO 8178 Part 4" August 15, 1996), respectively, all of which are incorporated herein by reference;

(2) PM2.5 is calculated using the factor of weight fraction of PM2.5/TPM based on CARBs speciation data for PM size fractions ("PMPROF REF (Excel) - Reference number for PM profiles," July 8, 2019, incorporated herein by reference). For MGO, the factor is 0.92;

(3) ROG shall be calculated as a fraction of the TOG, set forth in CARB's Off-Road Diesel HC to Rog/Tog Ratio ("FRAC (Excel) - Fraction data for source categories," February 21, 2019, incorporated herein by reference). For MGO, the factor is 0.856 for internal combustion engines and 0.946 for boilers. TOG shall be measured using Method 25A (40 CFR Pt. 60, App. A-7, Method 25A, December 23, 1971), which is incorporated herein by reference;

(4) CO2E for a control system shall be calculated as follows lbs CO2E = (lbs CO2 + 25 * lbs CH4 + 298 * lbs N2O). CO2, CH4 and N2O shall be measured before and after the control strategy, and include any uncontrolled auxiliary sources for the control strategy using the test methods specified in section 93130.5(g)(1) and 93130.5(g)(3) in this Control Measure. Strategies that use a fuel with a CARB Low Carbon Fuel Standard certified pathway may apply a reduction to CO2E by the factor of the carbon intensity of the fuel to the carbon intensity of the standard fuel;

(5) Grid-neutral shall be determined by calculating the ratio of the CO2E to the measured MWh of the control system which value must be lower than the state output emission rate;

(6) Ammonia slip shall be measured using the Bay Area Air Quality Management District Source Test Procedure ST-1B, Ammonia Integrated Sampling, dated January 20, 1982, which is incorporated herein by reference, or other equivalent CARB or district approved test method(s);

(7) The sulfur content of fuels shall be determined pursuant to International Standard ISO 8754 (as adopted on July 15, 2003), which is incorporated herein by reference;

(8) Exhaust Flow Rate shall be measured using CARB Method 100, Procedures for Continuous Gaseous Emission Stack Sampling (as amended July 28, 1997), which is incorporated herein by reference; and

(9) Engine Work shall be determined by measuring the total power output in MWh of the control strategy's generators electrical output during the test periods.

(h) Application Submittals to CARB.

(1) All applications, correspondence, and reports relating to source testing shall be submitted to CARB addressed to:

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(2) Verbal submissions do not constitute acceptable application formats.

(3) Supporting data in electronic format may be accepted as part of the application at the discretion of the Executive Officer.

(4) Applications shall follow the format and include the contents described in CARB's Recommended Emissions Testing Guidelines for Ocean-Going Vessels (dated June 20, 2012), which is incorporated herein by reference.

(5) CARB may allow electronic or e-mail submittal with instructions on the CARB website.

(6) The Executive Officer shall determine whether the application is complete. If incomplete, the Executive Officer will notify the applicant within 30 calendar days requesting additional information required to complete the application.

(i) CARB approval of the control strategy.

Within 90 calendar days after an application has been deemed complete, the Executive Officer shall act to approve or disapprove the application. The Executive Officer shall notify the applicant of the decision in writing and identify any terms and conditions that are necessary for any party to use the CARB approved emission control strategy. The approval of an emission control strategy is valid for 5 years, unless it is revoked by CARB as set forth in section 93130.5 (i)(3).

(1) Extensions of CARB approved emission control strategy.

If the applicant wishes to extend an approval of a CARB approved emission control strategy, it must apply to do so within 6 months of the end date of the approval to ensure the Executive Order does not lapse. The applicant may apply for an extension by submitting an extension application to the Executive Officer asserting that the strategy has not changed and is still effective, following to the requirements specified in subsection (h) above.

(2) Modifications to a CARB approved emission control strategy.

(A) Proposed modifications to the design or operation of a CARB approved emission control strategy that have any potential to affect the emissions control effectiveness or operational

performance must be reviewed and approved by the Executive Officer before they are implemented.

(B) Failure to obtain Executive Officer approval before modifying the design or operation of a CARB approved emission control strategy is a violation, and may also be grounds for revocation of CARB's approval, as set forth in subsection 93130.5 (i)(3).

(C) The applicant shall describe in detail the design modification along with an explanation of how the modification will change the operation and performance of the strategy. The applicant shall submit additional test data, durability data, engineering justification and analysis, or any other information deemed necessary by the Executive Officer to address the differences between the modified and original designs, and to ensure that the strategy's reductions are maintained.

(D) A modification includes, but is not limited to:

i. Any change of materials used in, or specifications of, the control strategy;

ii. Any change to the components, component design, composition, materials, or reagent usage;

iii. Any change to the sensors, part sizes, or sizing methodology;

iv. Any change to the monitoring and notification system control; logic, algorithms, operating parameters; or

v. Any proposed change to a portion of the approval.

(E) The Executive Officer will reissue the approval with updates to reflect the modifications if he or she determines that the modifications have no material effect on the control strategy, or if the modifications are found to affect the control strategy but the strategy's emission reductions still meet the requirements in section 93130.5(d) of this Control Measure.

(3) Revoking a CARB approved emission control strategy.

If an applicant modifies the design or operation of a CARB approved emission control strategy without review and approval pursuant to subsection (2) above, the Executive Officer may revoke its approval of the emission control strategy. To resume compliance using the strategy, the applicant must re-submit an application and receive a new approval.

(j) Review of CARB approved emission control strategy.

(1) At a minimum, emission control technologies shall be tested annually to demonstrate that the expected percentage of emissions reductions being achieved.

(2) The applicant shall provide the results of such testing to the Executive Officer by December 31, annually.

(3) The Executive Officer may modify the testing frequency as he or she deems appropriate.

(4) The Executive Officer may request that the owner or operator of a CARB approved emission control strategy conduct periodic emission source testing or other types of monitoring to verify the proper operation of alternative control technologies or distributed generation equipment, or to verify the emission rate of an auxiliary engine.

(k) Records Retention

(1) Records made pursuant to Section 93130.5 shall be kept for a minimum of five years. This information shall be supplied to the Executive Officer within 30 days of a request from CARB staff.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.6 Opacity Requirement.

(a) No person shall discharge or cause the discharge from any ocean-going vessel at berth and at anchor, into the atmosphere, any visible emissions of any air pollutant, for a period of periods aggregating three minutes in any 1 hour from any operation on the vessel that is:

(1) As dark as the Ringelmann 2, as published by the United States Bureau of Mines (May 1967), which is incorporated by reference; or

(2) Of such opacity as to obscure an observer's view to a degree equal to or greater than the Ringelmann 2.

(b) The California time aggregate method and the United States Environmental Protection Agency Opacity Test Method 9 (40 CFR Pt. 60, App. A-4, December 23, 2017), which is incorporated herein by reference will be used to analyze the readings to determine compliance.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510, 41511, and 41701, Health and Safety Code.

Section 93130.7. Vessel Operator Requirements.

Vessel operators that visit a berth or terminal in California shall meet the following requirements, except as provided in section 95130.5(d)(7). Any failure to perform any specific items in this section shall constitute a separate violation for each day that the failure occurs.

(a) Shore power requirements for at berth emission reductions.

Vessel operators with commissioned shore power vessels shall plug in to shore power on each and every visit to a compatible shore power berth.

(b) Requirements for vessel auxiliary engines.

Vessel operators shall reduce auxiliary engine emissions to the performance standards set forth in section 93130.5(d)(1) of this Control Measure through use of a CARB approved emission control strategy while at berth by the date specified for each vessel type in this section unless the visit qualifies for an exception identified in sections 93130.4, 93130.8, or 93130.10 of this Control Measure. A summary of responsibilities is provided in section 93130.17 of this Control Measure.

Table 1: Compliance Start Dates by Vessel Type	
January 1, 2021	Container and refrigerated cargo vessels
January 1, 2021	Passenger vessels
January 1, 2025	Roll-on roll-off vessels
January 1, 2027	Tanker vessels that visit the ports of Los Angeles or Long Beach
January 1, 2029	All remaining tanker vessels

(c) Requirements for tanker auxiliary boilers on tanker vessels with steam driven product pumps.

Vessel operators shall reduce boiler emissions to the performance standards set forth in section 93130.5(d)(2) of this Control Measure through use of a CARB approved emission control strategy while at berth by the date specified for each vessel type in this section unless the visit qualifies for an exceptions identified in sections 93130.4, 93130.8, or 93130.10 of this Control Measure. A summary of responsibilities is provided in section 93130.17 of this Control Measure.

Table 2: Compliance Start Dates for Tanker Vessels with Steam Driven Product Pumps	
January 1, 2027	Tanker vessels with steam driven product pumps that visit the ports of Los Angeles or Long Beach
January 1, 2029	All remaining tanker vessels with steam driven product pumps

(d) Visits by vessels with on-board control strategies.

If the CARB approved emission control strategy is operated solely on the vessel, vessel operators shall confirm in writing with terminal operator that the equipment is operational and will be used, prior to the vessel's arrival at a California berth.

(e) Vessel compliance checklists.

Vessel operators shall complete all items in the checklist to ensure compliance under the Control Measure:

(1) At least 7 calendar days before arrival, the vessel operator shall communicate in writing with the terminal operator and operator of the CARB approved emission control strategy to coordinate the use of a CARB approved emission control strategy and do all of the following if the vessel operator is using a CARB approved emission control strategy:

(A) Request use of a CARB approved emission control strategy; and

(B) Supply the terminal operator and the operator of the CARB approved emission control strategy with information about the compatibility of the vessel with the intended CARB approved emission control strategy.

(2) Ensure the vessel is commissioned as required by the terminal operator.

(3) Use shore power or another CARB approved emission control strategy during the vessel visit.

(A) Begin using shore power or another CARB approved emission control strategy within 1 hour after “Ready to Work”.

(B) Cease using shore power or another CARB approved emission control strategy no sooner than 1 hour before “Pilot on Board.”

(4) Report the following visit information to CARB electronically within 7 calendar days of departure, using local time for all dates and times:

(A) Vessel name;

(B) Vessel IMO number;

(C) Vessel type;

(D) Vessel operator contact information, including fleet, name, address, email address, and telephone number;

(E) Port, terminal, and berth visited;

(F) Vessel arrival time and vessel departure time;

(G) Vessel shift to another berth (must be reported as a separate visit), where applicable;

(H) Type of CARB approved emission control strategy used, where applicable;

(I) Date and time when vessel declared as “Ready to Work”;

(J) date and time when a CARB approved emission control strategy is begins reducing emissions and date and time when a CARB approved emission control strategy stops reducing emissions, where applicable;

(K) Type of fuel used in auxiliary engine(s) and auxiliary boiler(s);

(L) Sulfur content of fuel used in auxiliary engine(s) and auxiliary boiler(s), where applicable;

(M) Amount of fuel used in auxiliary engine(s) and boiler(s), during vessel visit, where applicable;

(N) Date and time pilot on-board in preparation for departure;

(O) Information specified in the approved compliance strategy's Executive Order compliance instructions;

(P) Information if a vessel uses an exception, including the type of exception, a detailed description, including dates and times, and any relevant correspondence (e.g. emails) documenting the visit exception;

(Q) Information if a vessel uses the remediation fund, including detailed description of the allowed circumstance outlined in section 93130.15 of this Control Measure, the number of days/hours the event took place, and the tier rating of the auxiliary engine; and

(R) Information if a TIE or VIE is used for the visit including the person who authorized the use of the TIE or VIE.

(f) Send accurate and complete reporting to CARB.

(1) Vessel compliance information submitted to CARB shall:

(A) Be written in the English language;

(B) Attest that the information submitted is true, accurate and complete, signed by the Responsible Official under penalty of perjury; and

(C) Be submitted to CARB in writing to:

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(2) CARB may also allow online submittal to a CARB reporting system or e-mail with instructions on the CARB website.

(g) Records Retention

(1) Records made pursuant to Section 93130.7 shall be kept for a minimum of five years. This information shall be supplied to the Executive Officer within 30 days of a request from CARB staff.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.8 Vessel Visit Exceptions.

Vessel operators are exempt from the operational requirements in section 93130.7 of this Control Measure if any of the following occurs.

(a) Vessel safety and emergency events.

The emission reduction requirements of section 93130.7 and section 93130.9 of this Control Measure do not apply during a portion of the visit that a responsible official reasonably determines that compliance with section 93130.7 would endanger the safety of the vessel, its crew, its cargo or its passengers because of severe weather conditions, a utility event or other extraordinary reasons beyond the master's reasonable control. All safety and emergency events are subject to review and audit by the Executive Officer. This exception applies if approved and only as long as the event occurs and only to the extent necessary to secure the safety of the vessel, its crew, its cargo, or its passengers and provided that the master:

(1) Take all reasonable precautions after the conditions necessitating the exception have ended to avoid or minimize repeated claims of exception under this subsection; and

(2) Include with the reporting requirement of section 93130.7(e)(4) of this Control Measure all documentation necessary to establish the conditions necessitating the safety exception and the date(s), local time, and location. All required documentation must be in the English language.

(b) Bulk and general cargo vessels.

Bulk and general cargo vessels are not subject to the vessel auxiliary engine requirements in sections 93130.7(b) of this Control Measure, and are only required to report their vessel visit activity under section 93130.7(e)(4) of this Control Measure starting January 1, 2021.

(c) Vessel commissioning.

The first vessel commissioning visit made by a vessel to a terminal may be an exception as long as the vessel was able to successfully connect to shore power during that visit. Documentation of a successful vessel commissioning

must be submitted with the vessel visit reporting requirements of section 93130.7(e)(4) of this Control Measure. Additional vessel commissioning visits may qualify for exception if approved by CARB in writing where the vessel operator demonstrates:

(1) The commissioning process could not be accomplished in a single visit; or

(2) The terminal requires that the vessel be recommissioned.

(d) Research.

Vessel visits that participate in testing of an alternative technology may be an exception provided that the vessel operator:

(1) Receives a CARB approved test plan for the alternative technology prior to arrival;

(2) Participates in testing in accordance with the approved test plan;

(3) Keeps a copy of the approved test plan on the vessel at all times;

(4) Provides a copy of the approved test plan to CARB staff upon request; and

(5) Reports all information including the use of the research exception pursuant to section 93130.7(e)(4) of this Control Measure.

(e) Previously unregulated vessels.

(1) Until January 1, 2023, previously unregulated vessels are not subject to the vessel auxiliary engine requirements in sections 93130.7(b) of this Control Measure.

(2) Vessel operators are required to report their vessel visit activity under section 93130.7(e)(4) of this Control Measure.

(f) Vessels visiting a low activity terminal.

(1) The specific requirements for vessel categories in section 93130.7 and section 93130.9 of this Control Measure do not apply to vessel visits to low activity terminals as specified in section 93130.10(a) of this Control Measure.

(2) Vessel operators are required to report their vessel visit activity under section 93130.7(e)(4) of this Control Measure starting on January 1, 2021.

(g) Vessel incident event (VIE) and terminal incident event (TIE).

(1) The requirements of section 93130.7 and 93130.9 of this Control Measure do not apply during a visit if the fleet operator uses a VIE or terminal operator uses a TIE as specified in section 93130.11 of this Control Measure.

(2) Vessel operators are required to report their vessel visit activity under section 93130.7(e)(4) of this Control Measure.

(h) Remediation.

(1) The requirements of this Control Measure do not apply during a visit that qualifies and uses the remediation fund option in section 93130.15 of this Control Measure.

(2) Vessel operators are required to report their vessel visit activity under section 93130.7(e)(4) of this Control Measure.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.9 Terminal Operator Requirements.

Terminal operators that receive ocean-going vessels in California shall meet the following requirements, except as provided in section 95130.5(d)(7). Any failure to perform any specific items in this section shall constitute a separate violation for each day that the failure occurs.

(a) Shore power requirements for at berth emission reductions.

(1) Operators of terminals with berths equipped to receive compatible shore power vessels must connect these vessels to shore power when visited by a commissioned shore power vessel.

(2) The terminal operator is responsible for commissioning vessels equipped with compatible shore power.

(3) If the commissioned shore power vessel is berthed in a way that prevents it from connecting to shore power, the terminal may use a TIE or must provide an alternative CARB approved emission control strategy compatible with the vessel.

(b) Visits to terminals without shore power.

Terminals without shore power are responsible for arranging a CARB approved emission control strategy for each visit by vessels with requirements for auxiliary engines or tanker auxiliary boilers in section 93130.7 (b) or 93130.7 (c) of this Control Measure. If neither the vessel nor the terminal has shore power, then it is the shared responsibility of both parties to arrange a CARB approved emission control strategy for this visit.

(c) Visits by vessels with on-board control strategies.

If the CARB approved emission control strategy is operated solely on the vessel, terminal operators are required to confirm with vessel operators that the equipment is operational and will be used, prior to the vessel's arrival at a California berth.

(d) Terminal operator compliance checklist.

Terminal operators shall complete the following items in this checklist to ensure compliance under the Control Measure:

(1) At least 7 calendar days before arrival, the terminal operator shall communicate with the vessel operator and operator of the CARB approved emission control strategy in writing to coordinate the use of a CARB approved emission control strategy. If the vessel operator is using a CARB approved emission control strategy, the terminal operator shall supply the vessel operator with information about the terminal's compatibility with the intended CARB approved emission control strategy.

(2) For shore power:

(A) Ensure shore power vessels are commissioned for shore power at the terminal they are visiting or notify vessel operator if commissioning is required.

(B) Position vessel appropriately to enable use of shore power or the CARB approved emission control strategy.

(C) Record power meter reading before starting shore power;

(D) Plug in vessel within 1 hour of vessel "Ready to Work";

(E) Disconnect shore power no more than 1 hour before "Pilot on Board"; and

(F) Record power meter reading after disconnecting from shore power.

(3) Report the following vessel visit information within 7 calendar days of the vessel's departure, using local time for all dates and times:

(A) Vessel name;

(B) Vessel IMO number;

(C) Port, terminal and berth visited;

(D) Terminal operator contact information, including name, address, email address, and telephone number;

(E) Arrival date and time;

(F) Departure date and time;

(G) CARB approved emission control strategy used;

(H) If CARB approved emission control strategy was provided by the terminal, or terminal and vessel shared arrangement responsibility, start and end date and time of emission control;

(I) For shore power visits, the terminal must report the power meter readings at the time of shore power connection and after disconnection;

(J) Information specified in the approved compliance strategy's compliance instructions;

(K) Information relating to any exception claimed by the terminal during the visit, including a detailed description of the exception and documentation detailing the exception, and any relevant correspondence (e.g. emails) documenting the visit exception;

(L) Information if a terminal uses the remediation fund, including detailed description of the allowed circumstance outlined in section 93130.15 of this Control Measure, the number of days/hours the event took place, and the tier rating of the vessel's engine; and

(M) Information if a TIE or VIE is used for the visit including the person who authorized and if a TIE or VIE was used.

(e) Send accurate and complete reporting to CARB.

(1) Terminal compliance information submitted to CARB shall:

(A) Be written in the English language;

(B) Attest that the information is true, accurate and complete, signed by the Responsible Official under penalty of perjury, and

(C) Be submitted to CARB in writing to:

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(2) CARB may also allow online submittal to a CARB reporting system or e-mail with instructions on the CARB website.

(f) Construction or repair.

The terminal operator is responsible for providing an alternative CARB approved emission control strategy for vessels to reduce emissions if the CARB approved emission control strategy for the berth is unavailable due to construction or repair. Terminals also have the option of using a TIE or remediation fund for construction or repair.

(g) Records Retention

(1) Records made pursuant to Section 93130.9 shall be kept for a minimum of five years. This information shall be supplied to the Executive Officer within 30 days of a request from CARB staff.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.10. Terminal Exceptions.

The terminal-related requirements of this Control Measure in section 93130.9 are subject to certain exceptions, set forth in this section.

(a) Vessel visits to a low activity terminal.

(1) The at berth emission reduction requirements of section 93130.7 and section 93130.9 of this Control Measure do not apply during a visit if the vessel visits a low activity terminal.

(2) For each vessel type listed in section 93130.7(b), a terminal that receives fewer than 20 visits in both 2019 and 2020 is initially considered a low activity terminal for that vessel type.

(3) A low activity terminal that receives 20 or more visits per year for two consecutive calendar years from a vessel type no longer qualifies for the low activity terminal exception for that vessel type and is required to reduce emissions starting January 1 of the following year.

(4) Terminal operators shall report vessel visit information under section 93130.9 (d)(3) of this Control Measure.

(b) Bulk and general cargo vessels.

Terminals that receive bulk and general cargo vessels are not required to arrange for CARB approved emission control strategies for their visits. Terminals are only required to report the vessel visit information for bulk and general cargo vessels under section 93130.9 (d)(3) of this Control Measure starting January 1, 2021.

(c) Terminal safety and emergency events.

The at berth emission reduction requirements of section 93130.7 and section 93130.9 of this Control Measure do not apply during a visit if a responsible official reasonably determines that compliance with this section would endanger the safety of the terminal, or its staff because of severe weather conditions, a utility event, or other extraordinary reasons beyond the terminal's reasonable control. All safety and emergency events are subject to review and audit by the Executive Officer. This exception applies if approved and only as long as the event occurs provided that the terminal operator:

(1) Take all reasonable precautions after the conditions necessitating the exception have ended to avoid or minimize repeated claims of exception under this subsection; and

(2) Include with the reporting requirements of section 93130.9(d)(3) of this Control Measure all documentation necessary to establish the conditions necessitating the terminal safety exception and the date(s), local time, and location. All required documentation must be in English.

(d) Research.

Vessel visits that participate in testing of an alternative technology may be excluded from the at berth emission reduction requirements in section 93130.7 and section 93130.9 of this Control Measure. Research visits are subject to reporting requirements 93130.9(d)(3) of this Control Measure. To qualify for a research exception, the following conditions must apply:

(1) A research visit to a terminal must have a CARB approved research exception prior to arrival;

(2) A terminal must confirm and record a visit's research exception status with CARB prior to arrival; and

(3) Any testing must be conducted in accordance with the approved test plan.

(e) Terminal incident event (TIE) and vessel incident event (VIE).

The at berth emission reduction requirements of section 93130.7 and section 93130.9 of this Control Measure do not apply during a visit if the vessel fleet uses a VIE or the terminal operator uses a TIE specified in section 93130.11 of this Control Measure. Terminal operators shall report vessel visit information under section 93130.9 (d)(3) of this Control Measure.

(f) Remediation.

The at berth emission reduction requirements of section 93130.7 and section 93130.9 of this Control Measure do not apply during the portion of a visit that qualifies and uses the remediation fund option in section 93130.15 of this Control Measure. Terminal operators shall report vessel visit information under section 93130.9(d)(3) of this Control Measure.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.11. Vessel Incident Events (VIE) and Terminal Incident Events (TIE).

A VIE or a TIE accommodates a limited number of situations where a vessel does not reduce emissions during a visit.

(a) Granting VIEs and TIEs.

(1) The fleet that is designated in a vessel's visit report will be granted VIEs based on a percentage of fleet vessel visits to a California port between January 1 and December 31 in the previous year. The terminal operator that is designated in a vessel's visit report will be granted TIEs based on a percentage of vessel visits to the terminal between January 1 and December 31 in the previous year. In 2021, VIEs and TIEs will be granted by CARB staff by January 1, 2021. Each year after, VIEs and TIEs will be granted by CARB staff on February 1 of that year.

(2) These percentages are listed in the table in section 93130.11(b) of this Control Measure. The number of VIEs and TIEs granted is rounded to the nearest whole number. Since visit information is not available initially, in 2021, VIEs and TIEs will be determined by the fleet 2019 recordkeeping requirements in California Code of Regulations, title 17, section 93118.3(g)(1)(B) and wharfinger data in section 93118.3(g)(3)(A) of the previous at berth regulation.

(3) The fleet operator will be able to assign each received VIE to a visit made by a vessel in the fleet. The terminal operator will be able to assign each received TIE to a visit made by a vessel to the terminal.

(b) Table of VIEs and TIEs rates.

Table 3: VIEs and TIEs Rates by Vessel Type per Year

		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030+
TIEs	**All Terminals**	15%	15%	15%	15%	5%	5%	5%	5%	5%	5%
VIEs	**Container/ Reefer**	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
	Passenger	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
	Ro-ro					5%	5%	5%	5%	5%	5%
	LA/LB Tankers							5%	5%	5%	5%
	Other Tankers									5%	5%

(c) Expiring VIEs and TIEs.

VIEs and TIEs expire on January 31 of the year after they are granted. VIEs can only be used at the port for which they are granted and by the fleet they are granted to and TIEs can only be used at the terminal for which they are granted.

(d) Retiring VIEs and TIEs.

VIEs and TIEs are limited in number and can be used for infrequent situations listed in section 93130.17 of this Control Measure. Fleet operators and terminal operators must report the use of a VIE or TIE with the vessel visit report in sections 93130.7(e) and 93130.9(d) of this Control Measure. VIEs and TIEs cannot be traded with other fleets, terminals, or any other entity.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.12. CARB Approved Emission Control Strategy Operator Requirements.

CARB approved emission control strategy operators shall fulfill the following responsibilities:

(a) Maintain subcontractor services and agreements.

(1) Maintain a list of all subcontracted service providers and the services performed by each, maintaining copies of all agreements with service providers.

(2) Provide copies to CARB upon request of any agreement with service providers.

(b) CARB approved emission control strategy checklist.

CARB approved emission control strategy operators shall complete all of the following items in this checklist for each vessel visit to ensure compliance under the Control Measure. Any failure to perform any specific items in this section shall constitute a separate violation for each day that the failure occurs.

(1) Notification. At least 7 calendar days before a vessel's arrival, the operator of the CARB approved emission control strategy must coordinate in writing with the vessel operator and terminal operator for the use of the strategy and supply the vessel operator with information about the compatibility with the vessel and terminal of the CARB approved emission control strategy.

(2) Operational. During the visit, the operator of the CARB approved emission control strategy shall:

(A) Begin use of control strategy within 1 hour of vessel “Ready to Work”;

(B) Record inlet and outlet levels of emissions during the visit; and

(C) Continue using control strategy until at least 1 hour before “Pilot on Board”.

(D) Ensure vessels are operating on CARB compliant distillate marine fuel.

(3) Reporting. The operator of the CARB approved emission control strategy shall report the following information regarding the vessel visit within 7 calendar days of vessel departure, using local time for all dates and times:

(A) Vessel name;

(B) Vessel IMO number;

(C) Vessel type;

(D) Port, terminal and berth visited;

(E) Vessel operator contact information, including name, address, email address, and telephone number;

(F) Terminal operator contact information, including name, address, email address, and telephone number;

(G) Arrival date and time of the vessel;

(H) Departure date and time of the vessel;

(I) Dates and times when a CARB approved emission control strategy starts controlling emissions and finishes controlling emissions; and

(J) Vessel emissions while control strategy operated for the following categories:

i. NOx emissions in g/kW hr;

ii. PM2.5 emissions in g/kW hr; and

iii. ROG emissions in g/kW hr.

(4) Malfunction Reporting.

The operator of the CARB approved emission control strategy shall report within 24 hours to CARB by electronic means, the following information regarding any malfunction that is expected to create emissions in excess of any applicable emissions limitation for a period greater than 1 hour. If electronic notification is not immediately possible, telephone notification or

notification at the beginning of the next working day is acceptable. The notification must include the following information:

(A) Identification of the equipment causing the emissions in excess of any applicable emissions limitation;

(B) Magnitude, nature, and cause of the excess emissions;

(C) To the extent known, time and duration of the excess emissions;

(D) Description of the corrective actions taken or expected to be taken to remedy the malfunction and to limit the excess emissions;

(E) Information sufficient to demonstrate, to CARB's Executive Officer's reasonable satisfaction, that the malfunction was not caused in any way by poor maintenance, negligent operation, or any other reasonably preventable upset condition or equipment breakdown; and

(F) Readings from any continuous emission monitor used in the emission control strategy and readings from any ambient monitors nearby.

(5) Corrective Action Report.

Within 7 calendar days after a malfunction has been corrected, the operator of the CARB approved emission control strategy shall submit a written report to CARB that includes:

(A) A statement that the malfunction has been corrected, the date of correction, and proof of compliance with all applicable CARB approval requirements;

(B) The specific cause of the malfunction;

(C) A description of any preventive measures taken and/or to be taken; and

(D) A statement affirming under penalty of perjury that the malfunction was not caused entirely or in part by poor maintenance, careless operation, poor design, or any other preventable condition or preventable equipment breakdown.

(6) Records Retention

(A) Records made pursuant to Section 93130.12 shall be kept for a minimum of five years. This information shall be supplied to the Executive Officer within 30 days of a request from CARB staff.

(7) All information submitted to CARB shall:

(A) Be written in the English language;

(B) Attest that it is true, accurate, and complete, signed by the Responsible Official under penalty of perjury; and

(C) Be submitted to CARB in writing to:

CHIEF, TRANSPORTATION AND TOXICS DIVISION

CALIFORNIA AIR RESOURCES BOARD

1001 I STREET

SACRAMENTO, CA 95814

(D) CARB may also allow online submittal to a CARB reporting system or e-mail with instructions on the CARB website.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.13. Port Requirements.

(a) Port infrastructure.

Ports with terminals not excluded under the thresholds set forth in section 93130.10(a) Terminal Exceptions of this Control Measure, shall provide equipment or necessary infrastructure that is outside of terminal operators' contractual ability to provide and which will enable a terminal to comply with this Control Measure including but not limited to necessary underground infrastructure, conduit, cabling, ducting, and shore power vaults.

(b) Cessation of obligation.

If a terminal operator and/or vessel operator elects to purchase and use CARB approved emissions control equipment that does not need port assistance or infrastructure to operate in compliance with this Control Measure, then the port has no additional responsibility for that equipment.

(c) Wharfinger data.

All operators of a public or private California port or independent marine terminal shall provide wharfinger data to the Executive Office of CARB annually by January 31st of the following calendar year, regardless of visit activity. At a minimum, the wharfinger information shall include for each visit to the port:

(1) Name of the vessel;

(2) Vessel type;

(3) Name, address, email and telephone number for Company operating the vessel;

(4) IMO number for each vessel;

(5) Berth used by the vessel; and

(6) Date(s) and time the vessel was initially tied to the berth and subsequently released from the berth.

(d) Send accurate and complete reporting to CARB.

Port reports and wharfinger information submitted to CARB shall:

(1) Be written in the English language;

(2) Attest that it is true, accurate, and complete, signed by the Responsible Official under penalty of perjury; and

(3) Be submitted to CARB in writing to:

CHIEF, TRANSPORTATION AND TOXICS DIVISION

CALIFORNIA AIR RESOURCES BOARD

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SACRAMENTO, CA 95814

(4) If available, CARB may also allow electronic or e-mail submittal with instructions on the CARB website.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.14. Terminal and Port Plans and Interim Evaluation.

(a) Terminal plans.

(1) Terminal plan requirements.

Beginning in 2021, terminal operators shall submit a terminal plan that discusses how the terminal will comply with the requirements for ocean-going vessels visiting each berth, or the requirements for achieving reductions from alternative sources as provided in 93130.5(d)(7). For vessel categories with compliance dates after 2021, the terminal operator shall submit plans with the most likely control strategy. As an alternative, Ports may submit plans for their terminal operators.

(2) Terminal plan submission dates.

Terminal operators shall submit terminal plans to CARB by the following dates:

(A) Container, refrigerated cargo, passenger terminals: July 1, 2021;

(B) Ro-ro terminals: December 1, 2021;

(C) ~~LA/LB~~All tanker terminals, complying with 93130.5(d)(7): December 1, 2021;

(D) All ~~other~~ tanker terminals, complying with 93130.5(d)(1)-(2): ~~December 1, 2021~~July 1, 2024; and

(E) Low-use terminals that exceed~~s~~ the terminal threshold shall

submit a terminal plan by July 1 the following year.

(F) Ro-ro and tanker terminals shall revise and resubmit terminal plans on the following schedule, which must reflect any changes to the terminal since the initial plan.

i. Ro-ro terminals: February 1, 2024;

ii. LA/LB tanker terminals: February 1, 2026; and

iii. All other tanker terminals: February 1, 2028

(3) Terminal plan information.

Except for terminals complying with section 93130.5(d)(7), ~~T~~the terminal plan shall include discussion of necessary infrastructure modifications needed to reduce emissions from ocean-going vessels at a terminal~~. For each strategy implemented at a terminal, the terminal plan~~and shall include:

(A) Identification and description of all necessary equipment, including whether it will be located on the vessel, wharf, shore, or elsewhere;

(B) Number of vessels expected to visit the terminal using the strategy;

(C) List of each berth with geographic boundary coordinates;

(D) Identity of berth(s) where equipment will be used;

(E) Terminal/port specific berthing restrictions;

(F) Schedule for implementing equipment; and

(G) Division of responsibilities between the terminal operator and the port, including contractual limitations applicable to the terminal, relevant to enacting the infrastructure required by each terminal's plan; and

(H) A terminal claiming that a physical and/or operational constraint will delay its ability to implement its preferred CARB-approved control strategy to achieve emission reductions from vessels at berth according to the requirements of section 93130 et seq, must also include with its terminal plan a technical feasibility study evaluating if there are any other emission control options that could be implemented more quickly at the terminal.

(4) Alternative Terminal Plan Information

(A) For at-berth emission reductions, the information in section 93130.14(a)(3);

(B) Identification and description of all vessel and/or onshore sources from which alternative reductions will be achieved;

(C) Schedule for completing work necessary to achieve alternative reductions; and

(D) Reported NOx, ROG and PM2.5 emissions data from 2016 (or other approved baseline year) for all vessel and/or onshore sources from which alternative reductions will be achieved.

~~(4)~~(5) All terminal plans shall be signed by the applicable terminal's Responsible Official under penalty of perjury and are subject to verification by enforcement staff.

(b) Port plans.

(1) Port plan requirements.

Port~~s~~ operators shall submit a plan showing proof that the necessary terminal infrastructure modifications, or the requirements for achieving reductions from alternative sources as provided in 93130.5(d)(7), are being developed or have been completed and/or report any modifications still required in order for all of the Port's terminals with control requirements to reduce emissions of vessels at berth or achieve alternative emissions reductions as provided in 93130.5(d)(7). Ports should use terminal plans as basis for developing port plans, and may submit terminal plans on behalf of one or more of the port's terminal operators.

(2) Port plan submission dates

Port operators shall submit port plans to CARB by the following dates:

(A) Container, refrigerated cargo, passenger terminals: July 1, 2021;

(B) Ro-ro terminals: December 1, 2021;

(C) ~~LA/LB~~ All tanker terminals, complying with 93130.5(d)(7): December 1, 2021;

(D) All~~Non-LA/LB~~ tanker terminals, complying with 93130.5(d)(1)-(2): ~~December 1, 2021~~July 1, 2024;

(E) Updated plan by July 1 the following year after any new terminal at the port exceeds the annual visit threshold.

(3) Port plan information.

Except for ports with terminals complying with 93130.5(d)(7), ~~T~~the port operator shall include in its port plan a discussion of necessary infrastructure modifications needed to reduce emissions from ocean-going vessels at a terminal, and shall~~. For each strategy implemented at a berth, the plan must~~ include all of the following:

(A) Identification and description of which strategy each applicable terminal will use for compliance;

(B) Identify any equipment purchases and/or construction that are in progress or must still be completed to reduce emissions;

(C) Provide schedule for installing equipment and/or any necessary construction projects;

(D) Identify terminals where equipment will be used;

(E) Listing of each terminal with geographic boundary coordinates;

(F) Specify any port specific berthing restrictions; and

(G) List the division of responsibilities between the terminal and the ports for enacting the infrastructure required by each terminal's plan.

(4) Alternative Port Plan Information

For ports with terminals complying with section 93130.5(d)(7), the port plan shall include:

(A) For at-berth emission reductions, the information in section 93130.14(b)(3);

(B) Identification and description of all vessel and/or onshore sources from which alternative reductions will be achieved;

(C) Schedule for completing work necessary to achieve alternative reductions; and

(D) Reported NOx, ROG and PM2.5 emissions data from 2016 (or other approved baseline year) for all vessel and/or onshore sources from which alternative reductions will be achieved.

(4)(5) All port plans shall be signed by the applicable port's Responsible Official under penalty of perjury and are subject to verification by enforcement staff. If port plan schedules are not met, they are subject to enforcement actions.

(c) Approval of terminal or port plan plans.

Within 90 calendar days following submittal of a terminal plan under section 93130.14(a) or a port plan under section 93130.14(b), CARB shall notify the applicable terminal operator or port of any deficiencies in the contents of the plan (as set forth in sections 93130.14(a) and (b) respectively), and/or in the plan's demonstration that the terminal or port is making good faith efforts to facilitate use of a CARB-approved control strategy at each berth. If CARB does not notify the applicable terminal operator or port of any such deficiencies, the plan shall be deemed acceptable on the 90th day following submittal.

(d) Interim evaluation for tanker and ro-ro technology.

CARB staff will facilitate the completion of a feasibility study to assess ~~the progress made in adopting~~ control technologies for use with tanker and ro-ro vessels, as well

as the status of landside infrastructure improvements that may be needed to support emission reductions at ro-ro and tanker terminals. By July 1, 2023, staff will publish ~~analysis and findings~~results of the feasibility study in a report and make it available for public review at least 30 calendar days prior to presenting the report to the Board at a public meeting. The feasibility study will be conducted by a reputable third party with marine engineering expertise and will include the following elements:

(1) Engagement with key stakeholders (e.g. vessel and terminal operators, emission control vendors, marine engine and marine boiler experts, etc.) along with regulatory agencies (CARB, USCG, CSLC, BCDC, IMO, etc.), to assess and document the applicability, safety, reliability, cost-effectiveness and operability of potential candidate vessel- and land-based capture and/or control strategies.

(2) Identification of unique characteristics of affected terminals and Ro-Ro and tanker ship classes that may affect the applicability, safety, reliability, cost-effectiveness and/or operability of each candidate vessel- and land-based capture and/or control strategy.

(3) A final determination regarding the applicability, safety, reliability, cost-effectiveness and/or operability of each candidate vessel- and land-based capture and/or control strategy, and identification of the criteria employed to make that determination.

(A) For each technology determined to be feasible, a full hazard and operability study (HAZOP) shall be conducted on the identified technology, and the feasibility study shall propose a set of design standards that will comply with MOTEMS and other existing regulations, and that can support the full development of the technology.

(B) If no technology is determined to be feasible, identify the specific requirements and/or changes (if any) which will need to be met before the technology can be considered feasible.

(e) Results of the interim evaluation for tanker and Ro-Ro technology.

(1) If a technology or set of technologies is determined to be feasible, CARB staff in consultation with the third party marine engineering firm will assess the compliance deadlines in this Section to determine if adjustments need to be made. CARB staff shall initiate formal rulemaking to adjust the deadlines in this Section if it is determined that

the technology cannot be implemented under the current schedule. If staff finds that the compliance deadlines for ro-ro or tanker vessels need to be extended, the report will include recommendations to initiate staff's development of potential formal regulatory amendments.

(2) If no technology is determined to be feasible, CARB staff will initiate formal rulemaking to exempt or exclude Ro-Ro and/or tanker vessels from this Section of the regulation.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.15 Remediation Fund Use

This section sets forth an additional compliance option which may be used under limited circumstances where vessels and/or terminal operators have made certain enforceable commitments to controlling emissions at berth. Even if the emissions are not controlled for all or part of a vessel visit, under certain circumstances, a vessel may qualify to remediate emissions, as set forth in this section.

(a) For a vessel or terminal operator to utilize the remediation fund, a remediation fund administrator must be established with a Memorandum of Understanding executed with CARB under section 93130.16 of this Control Measure to manage the funds generated at that port or independent marine terminal.

(b) Vessel operators, terminal operators, and ports may request to use the remediation fund option in the following circumstances, if the request is supported by compelling documentation that demonstrates the eligibility of the request, consistent with the criteria in this section, as determined by CARB.

(1) Terminal equipment repairs – a terminal has invested in shoreside control equipment, and maintains that equipment according to manufacturer recommendations, but that equipment has failed and is being repaired, or new or replacement equipment has been ordered in a timely manner, but has not been received.

(2) Vessel equipment repairs -- a vessel operator has invested in shore power or other on-board control equipment, and maintains that equipment according to manufacturer recommendations, but that equipment has failed and is being repaired, or new or replacement equipment has been ordered in a timely manner, but has not been received.

(3) Delays with operation of existing control strategy – a vessel visits a berth and all parties have taken the required actions to use a CARB-approved control strategy, but the visit fails to achieve the

full emission reductions required under section 93130.5 of this Control Measure due to a delay or interruption in controlling emissions. If CARB-approved emission control strategy operator is under contract to reduce emissions from that vessel visit and a malfunction causes or contributes to a delay or interruption in emissions control, that operator must have notified CARB of the malfunction according to the provisions of section 93130.12(b)(4) of this Control Measure for that visit to be eligible to use the remediation fund for the uncontrolled hours of the visit.

(4) Terminal construction project – a terminal has invested in shoreside control equipment, and maintains that equipment according to the manufacturer recommendations, but takes that equipment out of service to allow a planned terminal upgrade or construction project that cannot safely be performed with the terminal side control equipment operating.

(5) A terminal plan deemed acceptable under section 93130.14(c) of this Control Measure identifies a physical and/or operational constraint that is delaying the implementation of a CARB-approved emission control strategy at the terminal.

(c) For excess vessel emissions that are otherwise required to be reduced under section 93130.5 of this Control Measure, the vessel operator, terminal operator, or port may elect to request use of the remediation fund option for each hour of uncontrolled emissions during a vessel visit if all of the criteria in this section 93130.15 of this Control Measure are met. Such request shall be submitted to CARB electronically within 7 calendar days of the vessel's departure, according to the requirements of section 93130.7(e) for vessel operators, section 93130.9(d) for terminal operators, and section 93130.13 for ports.

(d) For each request to use the remediation fund option, CARB shall evaluate the request to determine if the requirements of this section have been met and the request is eligible. If the party requesting use of the remediation fund option fails to adequately support its eligibility for that option based on the criteria in subsection (c), above, to CARB's satisfaction, then CARB may deny that request. Within 30 calendar days of receipt of each request, CARB shall notify the requestor whether the visit or visits are eligible to use the remediation fund option. Ineligible requests to use the remediation fund for a vessel visit shall result in that visit being considered non-compliant with this regulation.

(e) Within 30 calendar days of CARB's determination of eligibility, the requestor shall transfer a sum equal to the number of hours of excess emissions times the applicable hourly payment to the CARB-approved fund administrator, according to the specific payment provisions established by that administrator in its Memorandum of Understanding with CARB. Each partial hour of excess emissions shall be counted as full hour for the purpose of calculating the payment. These

payments are intended to cover the administrator's cost to achieve emission reductions through incentive activities in the communities exposed to the excess emissions, including 10 percent for administration expenses.

(f) Remediation fund hourly amount.

Table 4: Remediation Fund Hourly Amount		
Vessel Type	**Hourly Remediation Payment Beginning in 2021***	
	Normal Rate	**Tier III Rate**
Container, Reefer, Ro-ro	$1,900	$1,100
Tanker with electric pumps	$1,600	$1,000
Tanker with steam driven pumps	$3,400	$2,700
Passenger vessels with capacity under 1,500 combined passengers and crew	$5,300	$3,200
Passenger vessels with capacity of 1,500 or more combined passengers and crew	$12,000	$7,100
* Remediation payments used by vessel operators shall be reduced by 20 percent for IMO Tier III tanker vessels with steam driven pumps, and 40 percent for all other IMO Tier III vessels.		

(g) Prior to the beginning of each odd numbered calendar year, the hourly remediation payment amounts set forth in this section shall be adjusted by considering the current Consumer Price Index values published by the Bureau of Labor Statistics relative to 2019, to determine the hourly remediation payment amounts for that calendar year and the subsequent year. CARB shall post any updates to the hourly remediation payment on its website.

(h) For requests to use the remediation fund option for multiple vessel visits over an extended time period, the requestor may seek a prospective eligibility determination from CARB before the relevant visit occurs. Upon CARB's determination of eligibility, the requestor shall report data on each vessel visit within the required 7 days, and shall make payments at least monthly to the remediation fund administrator until the equipment is operational again and payments have been made for all uncontrolled vessel visits.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.16. Remediation Fund Administration.

This section sets forth the criteria for CARB approval of an entity to administer a

remediation fund for individual ports and independent marine terminals, and the requirements for approved administrators to manage those funds. The intent of the remediation fund is to mitigate the community impact of the excess emissions from vessel visits that did not reduce emissions at berth to the required levels, as set forth under section 93130.15. It is CARB's intention that the monies from the remediation fund achieve emission reductions not otherwise required by law or regulation by funding incentive activities that comply with adopted CARB guidelines on existing incentive programs.

(a) CARB staff shall notify, in writing, the local air quality management districts and air pollution control districts with jurisdiction in the communities adjacent to covered ports and independent marine terminals of the opportunity to apply to administer the remediation funds.

(b) Each district may elect to submit a written application, within 120 calendar days of notification, to the Executive Officer to administer remediation funds for that district's geographic area.

(c) Applications shall include the following information:

(1) Description of the applicant's experience implementing incentive programs for heavy-duty diesel vehicles and off-road equipment, with a focus on the Carl Moyer Program, Proposition 1B Program, or Community Air Protection Incentives, or similar programs for mobile and/or stationary sources of air pollution.

(2) Technical knowledge of engines, vehicles, equipment, and/or stationary air pollution sources that would be eligible for incentives.

(3) Remediation activity types and applicable CARB incentive program guidelines the fund administrator will use to recruit, evaluate, select, fund and track incentive activities.

(4) Demonstration of the applicant's capacity to administer the fund, including: personnel resources; operating budgets; accounting and legal support; activity tracking, emission reduction quantification, reporting mechanisms, and outreach experience.

(5) The ability to establish a separate account, and track deposits and payments, solely for the remediation fund.

(6) The proposed timeline for recruiting and funding incentive activities, and for those activities becoming operational to reduce emissions, once remediation funds are deposited into the applicant's separate account. For efficiency, these milestones may be aligned with existing solicitations, obligation, and liquidation deadlines for other incentive programs.

(d) CARB shall review submitted applications to determine whether the applicant is eligible and all required information is included in the application. CARB shall verify that:

(1) The applicant is eligible to administer a remediation fund based on the criteria in subsection (c) above;

(2) The application is complete, the responses demonstrate the applicant's capacity to successfully administer the remediation fund to the satisfaction of CARB; and

(3) The application includes a resolution from the applicant's governing board authorizing the applicant to participate in the remediation fund program.

(e) If CARB determines that the conditions in subsection (d) above have been met, CARB will notify the applicant and execute a Memorandum of Understanding with the applicant to enable the applicant to serve as the remediation fund administrator for ports and independent marine terminals in that air district's geographic area.

(f) If the air district with jurisdiction in the region that includes a covered port or independent marine terminal does not execute a Memorandum of Understanding with CARB to administer the remediation fund, CARB may invite non-profit organizations in the region with the demonstrated capacity and substantial experience administering incentive programs to apply. Any invited organization that wishes to participate must demonstrate no conflict of interest with the intended purpose of the remediation fund. CARB may approve a non-profit organization as the remediation fund administrator following the procedures and requirements of this section.

(g) CARB will post executed Memoranda of Understanding, and each successful applicant's application, on its public website.

(h) Each Memorandum of Understanding shall include the following minimum elements:

(1) Parties, contact information, effective date and term.

(2) Environmental justice: The fund administrator agrees to conduct its programs in a manner that ensures the fair treatment of all people in the State.

(3) Emission reductions: The fund administrator agrees to use remediation funds for incentive activities that directly benefit communities impacted by excess emissions from the port or independent marine terminal, and achieve emission reductions consistent with CARB's most recent applicable incentive program guidelines for: Carl Moyer Program, Proposition 1B: Goods Movement Emission Reduction Program, or Community Air Protection Incentives. Fund administrators shall seek to prioritize eligible activities in communities that are also identified by CARB under the AB 617 Community Air Protection Program or disadvantaged communities as defined by the Secretary for Environmental Protection. While at berth remediation funds can be administered as part of an existing incentive program, the

remediation funds cannot be used in place of any required match funding.

(4) Incentive activity types and applicable guidelines: The fund administrator agrees to recruit, evaluate, select, fund and track incentive activities in conformance with the requirements of the applicable guidelines for the incentive program or programs identified in the application.

(5) Schedule: The fund administrator will identify anticipated major milestones for implementing emission reduction projects once remediation monies have been received by the administrator.

(6) Reporting requirements: The fund administrator is responsible for submitting to CARB semi-annual reports covering fiscal activity and remediation activities funded, including, but not limited to, recipient, type, location, and estimated emission reductions achieved.

(7) Recordkeeping requirements: The fund administrator agrees to retain fund records, e.g., solicitations, applications, invoices, contracts, and correspondence, for 3 years after activity completion.

(8) Oversight: The fund administrator agrees to allow ongoing evaluations, reviews, and fiscal audits by CARB, other State agencies, or their designees.

(9) Records access: The fund administrator agrees to allow CARB or its designees access to evaluate or audit fund records.

(10) Enforcement: The fund administrator authorizes CARB or its designee to inspect incentive activities to ensure compliance with CARB requirements.

(11) Administration expenses: The fund administrator may retain up to 10% of the remediation funds collected for its direct and reasonable expenses incurred to implement the incentive program.

(12) Earned interest: The fund administrator agrees to maintain records and report on interest earned on remediation funds, and to expend earned interest according to the provisions of the MOU.

(13) Non-performance provisions: The fund administrator agrees that the following is a non-exhaustive list of the circumstances that constitute non-performance under this MOU. These circumstances include, but are not limited to:

(A) Failure to comply with the provisions of this Control Measure for remediation fund administrators or the CARB-approved guidelines of the applicable incentive programs.

(B) Failure to obligate or expend remediation funds within established timelines, or to show timely interim progress to meet these timelines.

(C) Insufficient performance or widespread deficiencies with remediation fund oversight, enforcement, record keeping, contracting provisions, inspections, or any other fund element as determined by CARB.

(D) Misuse of remediation funds.

(E) Funding of ineligible incentive activities or other items.

(F) Exceeding administration fund allotment.

(G) Insufficient, incomplete, or faulty incentive activity documentation.

(H) Failure to provide required documentation or reports requested from CARB, or other State agencies, in a timely manner.

(I) Poor performance as determined by a review or fiscal audit.

(14) Remedies: The fund administrator agrees to provisions to remedy non-performance, including:

(A) A corrective action plan.

(B) Transfer of collected remediation monies to an alternative fund administrator identified by CARB.

(C) Constraints on opportunity to administer future remediation funds.

(D) Termination of the Memorandum of Understanding.

(15) Indemnification: The fund administrator agrees to indemnify and hold harmless the State for any liability arising out of the performance by the fund administrator.

(16) Entitlements: The fund administrator agrees to comply with all laws, ordinances, regulations, and standards in administering remediation activities, including by obtaining any permits or approvals necessary to undertake the activities funded by the remediation fund, and complying with all environmental review requirements associated with such activities.

(17) Severability: The remaining provisions of an agreement continue in effect even if a court holds a specific provision invalid.

(18) Force majeure: CARB and fund administrator are not liable for any delay or failure in performance resulting from war, natural disasters, and other acts beyond their control.

(19) Amendments: The amendments shall only occur by mutual agreement in writing and signed by all parties.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.17 Summary of Responsibilities.

This Control Measure has shared responsibilities between all parties involved in reducing emissions from ocean-going vessels. The following table outlines a summary of responsibilities and how the terminal or vessel operator can apply exceptions, VIEs, TIEs, and remediation fund.

Table 5: Summary of Responsibilities				
Circumstances that may qualify for a VIE/TIE or remediation				
Circumstances	**Exception**	**VIE/TIE**	**Remediation Fund**	**Responsible Parties**
Safety/emergency, research, or vessel commissioning	✕			
Visits without reductions		✕	*	Terminal, Vessel
Vessel control equipment repair		✕	✕	Vessel
Terminal control equipment repair		✕	✕	Terminal, Port
Terminal upgrades/construction		✕	✕	Terminal, Port
Delays, but reduction occur		✕	✕	Terminal, Vessel
CAECS failure		✕	✕	Vessel, CAECS operator
*In general, all visits may use a VIE or TIE if available, but not all visits qualify for remediation. See section 93130.15(b) of this Control Measure				

Table 5: Summary of Responsibilities (Continued)		
Circumstances that will be evaluated for non-compliance		
Circumstances		**Responsible Parties**
Berth	**Vessel**	
Has shore power	**Does not have shore power**	Vessel
No shore power, but has other CAECS	**Has shore power**	Terminal, Port
No shore power, but has other CAECS	**Does not have shore power**	Terminal, Port, Vessel
Has other CAECS	**No shore power, but doesn't allow CAECS**	Vessel

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.18 Violations.

(a) Any person subject to this Control Measure who fails to comply with any provision, prohibition, limit, standard, criteria, or requirement in this Control Measure is subject to the penalties, injunctive relief, and other remedies specified in Health and Safety Code sections 38580, 39764, 42400 et seq., 43016, other applicable sections in the Health and Safety Code, and other applicable provisions as provided under California law for each violation. Nothing in this Control Measure shall be construed to limit or otherwise affect any penalties or other remedies available under federal law.

(b) Any failure to meet any provision, prohibition, limit, standard, duty, criteria, or requirement in this Control Measure shall constitute a single, separate violation of this Control Measure for each day that a vessel operates without using a CARB approved emission control strategy.

(c) Violating the recordkeeping or reporting requirements in this Control Measure shall constitute a single, separate violation of this section for each day that the applicable recordkeeping or reporting requirement has not been met.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 39674, 41510, 41511, and 43016, Health and Safety Code.

Section 93130.19 Sunset.

The requirements specified in this Control Measure shall cease to apply if the United States adopts and enforces requirements that will achieve emissions reductions within the Regulated California Waters equivalent to those achieved by this Control Measure. Equivalent requirements may be from IMO regulations adopted and enforced by the United States, or may be contained in regulations adopted or enforced by the United States Environmental Protection Agency. This Control Measure shall remain in effect until the Executive Officer issues written findings that federal requirements are in place that will achieve equivalent emissions reductions within the Regulated California Waters and are being enforced within the Regulated California Waters.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

Section 93130.19 Severability.

If any section, paragraph, subparagraph, sentence, clause, phrase, or portion of this Control Measure is held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions of the Control Measure.

Note: Authority cited: Sections 38560, 38562, 39600, 39601, 39658, 39659, 39666, 43013, and 41511, Health and Safety Code. Reference: Sections 38510, 38530, 38562, 38566, 38580, 39600, 39650, 39658, 39659, 39666, 41510 and 41511, Health and Safety Code.

PROJECTS CONTRIBUTING TO POTENTIAL CUMULATIVE IMPACTS TOGETHER WITH AT-BERTH REGULATIONS

Project and Lead Agency	Description (from State Clearinghouse) with timeline information if available	CEQA document	Tanker terminals in vicinity
CARQUINEZ			
Eco Services Maintenance & Future Adaptive Management Activities, Peyton Slough Remediation Project (SF Regional Water Quality Control Board)	"The Project purpose is to maintain the integrity of the Peyton Slough Remediation Project (Remediation Project) by implementing maintenance and adaptive management measures. Maintenance activities generally include placement of rock, soil and/or sheet pile fill for shoreline stabilization and protection of the remediation cap where settlement has occurred, or where head cuts threaten the integrity of the engineered Peyton Slough cap."	Notice of Exemption (June 23, 2020): https://ceqanet.opr.ca.gov/2020060480/2	Tesoro-Amorco, Shell
Lower Walnut Creek Restoration Project (Contra Costa County)	"The proposed project would restore and enhance coastal wetlands and adjacent habitats along the southern shoreline of Suisun Bay and from the mouth of Walnut Creek at Suisun Bay upstream along Walnut Creek and Pacheco Creek, improving habitat quality, diversity, and connectivity along four miles of creek channel, over approximately 386 acres in total." **Construction anticipated through 2023.**	IS/MND (9/13/19) https://ceqanet.opr.ca.gov/Project/2019099043	Pacific Atlantic, Tesoro-Avon
PORT OF LONG BEACH			
Deep Draft Navigation Feasibility Study and Channel Deepening Project (POLB)	"The Port of Long Beach Deep Draft Navigation Feasibility Study and Channel Deepening Project will evaluate dredging to deepen several channels, basins, and standby areas within the Port to improve waterborne transportation efficiencies and navigational safety for current and future container and liquid bulk vessel operations. Project areas include the approach channel extending seaward from the Queen's Gate opening of the Long Beach Breakwater; the approach channel to Pier J, the Pier J Breakwaters and berths J266-J270; and the PierT/West Basin	Draft EIS/EIR (October 2019). https://ceqanet.opr.ca.gov/Project/2016111014	Potentially all POLB terminals.

	and berth T140. A new electrical substation will be constructed landside, on Pier J, to provide electricity to the dredge equipment." **Construction anticipated to begin in 2024. See DEIR/EIS, p. 17.**		
Pier B On-6 Dock Rail Support Facility Project (POLB)	"Project would reconfigure, expand, and enhance the existing rail support facility located at Pier B in the Port of Long Beach to provide for additional railcar storage and staging capacity, including 36 additional rail tracks for railcar repair, and fueling, and to accommodate for assembly of cargo trains up to 10,000 feet long. The project would require realignment of Pier B Street, closure of the existing 9th Street grade crossing and certain local streets, and removal of existing ramps to and from the Shoemaker Bridge to provide sufficient area for expansion of the on-dock rail support facility. Utility lines would be newly constructed or relocated into subsurface utility corridors located between tracks." **Construction will occur in three phases over an estimated seven years; project estimated to be functional by 2025.**	FEIR (1/12/18). https://ceqanet.opr.ca.gov/Project/2009081079	Tesoro Pier T and Chemoil
PORT OF LOS ANGELES			
Star-Kist Cannery Facility Project (POLA)	"The proposed Project involves demolition of the former Star-Kist cannery facilities on an approximately 16.5-acre site within Terminal Island at the Port of Los Angeles. Construction activities would involve demolition of all facilities within the project footprint including a small wooden dock; grading; covering newly exposed dirt with crushed miscellaneous base; and installation of perimeter fencing and lighting." **Phase 2 portion of the Project will not begin until fiscal year 2021/2022.** (IS/MND, p. 210.)	IS/MND (12/2019.) https://ceqanet.opr.ca.gov/2019129042/2.	PBF- Berth 238
RICHMOND			
Point Molate Mixed-Use Development Project (City of Richmond)	Residential mixed-use project. Construction of the **Project and all infrastructure improvements, onsite and offsite, would be built over 7 to 9 years**	Final Subsequent EIR (7/24/20) https://ceqanet.opr.ca.gov/Project/2019070447	Richmond Long Wharf

Terminal Four Wharf, Warehouse, and Piling Removal Project (CA Coastal Conservancy)	"This project would remove large amounts of artificial fill, debris, and sources of contamination from the San Francisco Bay by Point San Pablo Terminal Four, which consists of the remains of a wharf, warehouse, and associated pilings and structures. Upon removal of the artificial fill, the project would also enhance a degraded area of shoreline and the associated intertidal and subtidal habitat, and enable the expansion of existing eelgrass beds and rocky intertidal habitats."	IS/MND (March 2020) https://ceqanet.opr.ca.gov/2020039028/2	Richmond Long Wharf
Miller/Knox Land Use Plan Amendment (East Bay Regional Parks District)	"LUPA purpose is to update the 1983 Land Use Development Plan. Recommendations include dredging the lagoon with on-site dredge disposal; rehabilitation of a National Register-eligible building; partial demolition & re-purposing of another NR-eligible building; development of a new building for district interpretive programming use; trail system improvements; installation of drought-resistant climate-friendly gardens, landscaping, & turf areas; refurbishing of restrooms, outdoor showers, drinking fountains, & picnic areas; parking area improvements; other improvements to provide public access & amenities."	Final EIR (Jan. 2019). https://ceqanet.opr.ca.gov/Project/2013052070.	Richmond Long Wharf, BP/ARCO and Pacific - Atlantic
Point Isabel Water Access and Shoreline Restoration Project (East Bay Regional Park District)	"The proposed project would include water access, shoreline, and recreation improvements for the project site. The four major phases of work include: 1) improving access to SF Bay by rehabilitating the existing non-motorized boat launch; 2) constructing a new parking area to accommodate 30 additional parking spaces; 3) repairing the remaining existing SF Bay facing shoreline; ADA access to SF Bay; and 4) repairing the failing portion of the Hoffman Channel shoreline protection." **Anticipated construction in four phases through 2024.**	IS/MND (9/25/17) https://ceqanet.opr.ca.gov/2017092071	BP/Arco
PORT OF STOCKTON			
Lehigh Southwest Stockton Terminal Project Draft Environmental Impact	"The proposed project involves redeveloping an existing bulk cementitious material receiving and distribution terminal at the Port to accommodate additional capacity and improve operational efficiency. The proposed project consists of: 1) Berth 2 rehabilitation; 2) ship unloader replacement; 3) rail trestle replacement; 4) barge loading component installation; and 5) upland facility improvements, including	DEIR (5/22/20) https://ceqanet.opr.ca.gov/Project/2019100510	Stockton Port Authority

Report (Port of Stockton)	dome construction, truck loading station modifications, a new higher-capacity rail car loading station, demolition of structures and equipment, and existing bunker dust collector replacements**." Construction anticipated to occur between 2020 and 2025**. (DEIR, p. 32.)		
Contanda Renewable Diesel bulk Liquid Terminal Development Project (Port of Stockton)	"Contanda Terminals, LLC, (Contanda) proposes to develop a new bulk liquid termival at the Port of Stockton (Port) to receive, store, and transfer renewable diesel (a diesel product made from renewable resources). As part of the proposed project, Contanda would enter into a 15-year lease with five 5-year extension options with the Port and would construct sixteen aboveground storage tanks (ASTs) of varying capacity at a vacant parcel at the Port. Following construction, Contanda would receive renewable diesel by rail and transfer it to ASTs for storage."	DEIR (Jan. 2019) https://ceqanet.opr.ca.gov/Project/2018102008.	Stockton Port Authority

Memorandum

To: Karen Boven

From: Lou Browning

Date: July 13, 2020

Re: UCR Boiler Testing Results

University of California Riverside (UCR) recently tested a boiler on a tanker ship for the Air Resources Board (ARB) and shared their draft report with Chevron.[1] ICF was asked to analyze the report given the dramatic change in emission factors relative to those currently used in inventory development.

UCR tested a modern boiler on a SuezMax ship supplied by Chevron while unloading crude at the Richmond Long Wharf. Boiler load was estimated at 65% based upon fuel flow. Emission results in terms of grams of emissions per kilogram of fuel (g/kg-fuel) are shown in Table 1.

Table 1. Emission Test Results (g/kg-fuel)

NOx	$PM_{2.5}$	CO	SO_2	CO_2
2.86	0.022	0.064	0.943	3026.1

In developing boiler loads for tanker ships for emissions inventory development, ARB took boiler estimated fuel flows obtained from ship engineers by Starcrest during their vessel boarding program. They then divided the fuel flows by 300 g/kWh to determine loads. Multiplying the values in Table 1 by the 300 g/kWh gives the following emission factors shown in Table 2.

Table 2. Calculated Emission Factors (g/kWh)

NOx	$PM_{2.5}$	CO	SO_2	CO_2
0.858	0.0066	0.019	0.283	907.8

These are significantly less than those currently used to calculate emissions at ports and used by ARB in their At-Berth statement of reasons. In their most recent presentation, they indicated that tanker $PM_{2.5}$ emissions represented 50 percent of the $PM_{2.5}$ emissions from ships stopping at California ports in 2016.[2]

[1] UCR, *Emissions Evaluation of a Large Capacity Auxiliary Boiler on a Modern Tanker – Draft Final Report,* prepared for ARB, March 2020.

[2] ARB, *Control Measure for Ocean-Going Vessels At Berth (15-Day Changes)*, March 26, 2020. Available at https://ww2.arb.ca.gov/sites/default/files/2020-05/External%20At-Berth%20Fact%20Sheet%20March%202020.pdf

The currently used emission factors for auxiliary boilers for inventory development are listed for steamships. These were obtained from a 2002 report by Entec.[3] This report has been the source of most emissions factors for ocean going vessels. Entec compiled data from various reports representing testing on slightly over 100 ships. While this represents the best compilation available to date, vessels tested are over 20 years old and only a small sample of ships currently in operation (approximately 33,700 ocean going vessels are currently in service worldwide).

In Entec's report they state a caveat on the steamship emission factors they list as follows:

> *Emission factor measurement data relating to gas turbines and steam turbines are scarce in comparison to diesel engines and thus a greater uncertainty is associated with these factors. For steam turbines, all recent marine emission inventory studies have relied on US data from the early 1980s (US EPA, 1985 and Scott Environmental Technology Inc., 1981). Since no new data has been found in the literature and steam engines are in general being phased out, the same emission factors are proposed here*.

The Environmental Protection Agency (US EPA) report mentioned above is a compilation of emission factors for all combustion sources.[4] Emission factors for boilers come from Chapter 1.3 for boilers less than 100 million Btu per hour operated on No 6 fuel oil. The emission factors from that report are listed in Table 3 where S is the percent sulfur in the fuel.

Table 3. AP-42 Emission Factors (lbs/1000 gallons)

NOx	PM	CO	SO_2
55	9.19(S) +3.22	5	157(S)

Using 3752 grams per gallon for No 6 fuel oil[5] and assuming 0.1% sulfur in the fuel, the emission factors above become as follows:

Table 4. AP-42 Emission Factors (g/kg-fuel)

NOx	PM	CO	SO_2
6.65	0.500	0.604	1.898

Using the 300 g/kWh SOFC used to develop the boiler loads, these translate into those shown in Table 5. ARB emission factors are shown for comparison. The slight variation is probably due to the assumed density of the fuel.

Table 5. AP-42 Emission Factors (g/kWh)

Source	NOx	PM	CO	SO_2
AP-42	1.995	0.150	0.181	0.569
ARB	1.995	0.151	0.200	0.587

[3] Entec, *Quantification of emissions from ships associated with ship movements between ports in the European Community, Final Report*, July 2002. Available at https://ec.europa.eu/environment/air/pdf/chapter2_ship_emissions.pdf

[4] US EPA, *AP 42, Fifth Edition, Volume I Chapter 1: External Combustion Sources*, September 1985. Available at https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s03.pdf

[5] Argonne National Laboratories, *The Greenhouse gases, Regulated Emissions, and Energy use in Transportation Model (GREET),* 2019. Available at https://greet.es.anl.gov/

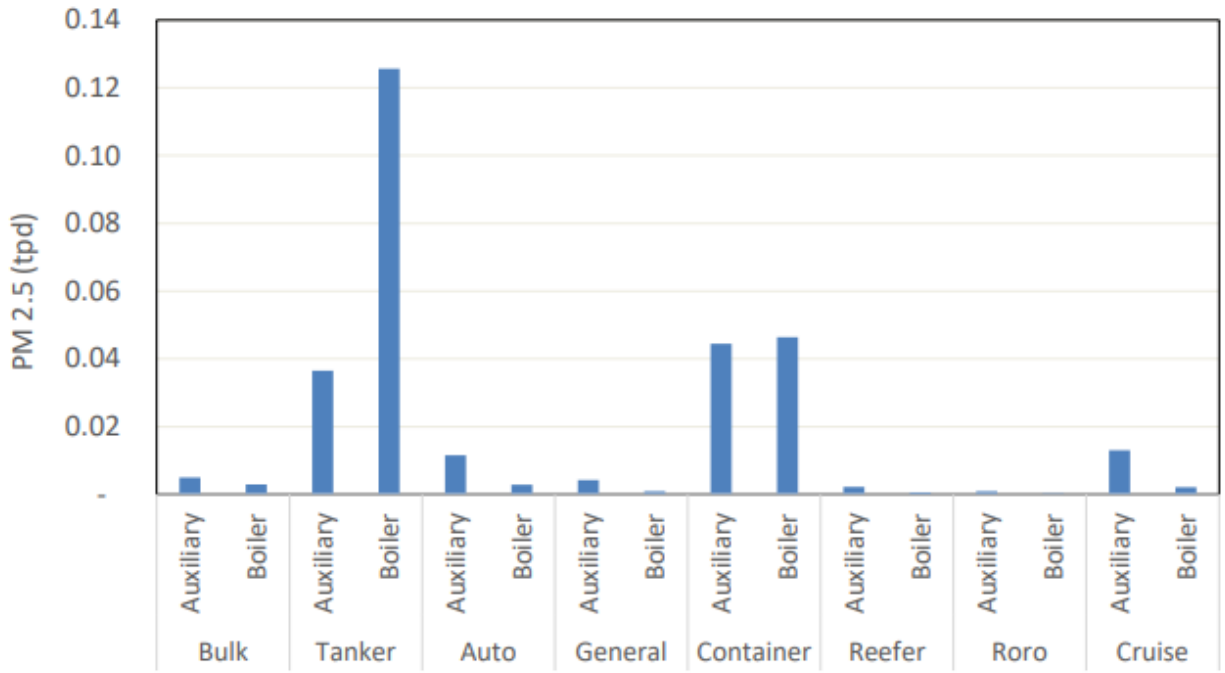
Table 6 shows the comparison between the newly measured emission factors and the ones ARB used.

Table 6. Emission Factor comparisons (g/kWh)

Source	NOx	PM	CO	SO_2	CO_2
UCR	0.858	0.0066	0.019	0.283	907.8
ARB	1.995	0.151	0.200	0.587	934.2
Difference	-57%	-96%	-90%	-52%	-3%

As shown above, the tested boiler exhibited significantly lower emissions than those estimated from AP-42. In ARB's 2016 inventory used for regulatory development[6], calculated $PM_{2.5}$ emissions from tanker boilers is a significant part of their inventory as shown in Figure 1.

Figure 1. 2016 Statewide At-Berth PM2.5 emissions by Vessel and Engine Type



The above figure shows approximately 0.125 tpd from tanker boilers and another 0.035 tpd from tanker auxiliary engines while at berth. Total $PM_{2.5}$ from all ship types is roughly 0.3 tpd. If the new emission factors were applied for boilers the boiler emissions would be 0.12 tpd lower. That would lower the tanker impact from 50 percent of $PM_{2.5}$ emissions from all ships to 22 percent making it less important than container ships.

The great reduction in emissions is expected since marine auxiliary boilers have improved greatly in the last 30 years. Better nozzle designs along with cleaner fuel allows boilers to operate much more efficiently with lower emissions. This was confirmed by Alpha Laval engineers, the main marine auxiliary boiler manufacturer. Consistent results were found by UCR on a recently tested container ship for ARB.

[6] ARB, *2019 Update to Inventory for Ocean-Going Vessels At Berth: Methodology and Results, Appendix H,* October 9, 2019. Available at https://ww3.arb.ca.gov/regact/2019/ogvatberth2019/apph.pdf

PROCLAMATION OF A STATE OF EMERGENCY

WHEREAS beginning on August 14, 2020, a significant heat wave struck California and the surrounding Western states, bringing widespread temperatures well in excess of 100 degrees throughout the state (the "Extreme Heat Event"); and

WHEREAS as a result of this Extreme Heat Event, the National Weather Service issued multiple Excessive Heat Warnings and Red Flag Warnings within the State; and

WHEREAS the Extreme Heat Event has put a significant demand and strain on California's energy grid as well as limiting energy imports from surrounding states; and

WHEREAS the California Independent Service Operator (CAISO) has, to date, issued multiple Stage 2 and Stage 3 System Emergencies during the Extreme Heat Event, the first Stage 3 Emergencies issued due to heat in two decades, resulting in rolling blackouts for customers throughout the State; and

WHEREAS the Extreme Heat Event is expected to last through at least August 20, 2020, and CAISO has advised that additional Stage 2 and Stage 3 System Emergencies are likely unless action is taken to conserve power and increase output; and

WHEREAS it is necessary to take action to reduce the strain on the energy infrastructure and increase energy capacity during the Extreme Heat Event; and

WHEREAS under the provisions of Government Code section 8558, subd. (b), I find that conditions of extreme peril to the safety of persons and property exist due to the Extreme Heat Event throughout California; and

WHEREAS under the provisions of Government Code section 8625, subd. (c), I find that local authority is inadequate to cope with the magnitude and impacts of the extreme heat event; and

WHEREAS under the provisions of Government Code section 8571, I find that strict compliance with various statutes and regulations specified in this Order would prevent, hinder, or delay appropriate actions to prevent and mitigate the effects of the Extreme Heat Event.

NOW, THEREFORE, I, GAVIN NEWSOM, Governor of the State of California, in accordance with the authority vested in me by the State Constitution and statutes, including the California Emergency Services Act, and in particular, Government Code sections 8567, 8571, 8625 and 8627, **HEREBY PROCLAIM A STATE OF EMERGENCY** to exist in California.

IT IS HEREBY ORDERED THAT:

1. In preparing for and responding to the Extreme Heat Event, all agencies of state government use and employ state personnel, equipment, and facilities or perform any and all activities consistent with the direction of the Governor's Office of Emergency Services and the State Emergency Plan. Also, all residents are to heed the advice of emergency officials with regard to this emergency in order to protect their safety.

2. For purposes of regulations concerning stationary generators, the Extreme Heat Event shall be deemed an "emergency event" under California Code of Regulations (CCR), title 17, section 93116.1, subd. (b)(14), and a loss of electrical service shall be deemed "beyond the reasonable control of the owner or operator" under CCR, title 17, section 93116.2, subd. 2(a)(12)(A)(2). In addition, use of stationary generators during the Extreme Heat Event shall be deemed an "emergency use" under CCR, title 17, section 93115.4, subd. (a)(30).

3. In regulations concerning portable generators, the Extreme Heat Event shall be deemed an "emergency event" under CCR, title 13, section 2452, subd. (j), and interruptions caused by the Extreme Heat Event shall be deemed an "unforeseen interruption of electrical power from the serving utility" under CCR, title 13, section 2453, subd. (m)(4)(E)(i).

4. In regulations concerning the use of auxiliary engines by ocean-going vessels berthed in California ports, the Extreme Heat Event shall be deemed an "emergency event" under CCR, title 17, section 93118.3, subd. (c)(14).

5. This Order shall be deemed to provide notice to reduce use of grid-based electrical power under CCR, title 17, section 93118.3, subd. (c)(14)(C), and notice under that same section that reduction is no longer necessary at 11:59 p.m. on August 20, 2020. Ships that initially berthed at California ports between August 17, 2020 and August 20, 2020 shall not be required to use shore power until August 24, 2020.

6. A ship operating on auxiliary engines pursuant to an "emergency event" under Paragraph 4 of this Order shall be deemed to qualify for an exemption under CCR, title 17, section 93118.3, subd. (d)(1)(E)(1)(a), and any visit occurring during the period described in Paragraph 5 of this Order shall be counted towards compliance under CCR, title 17, section 93118.3, subd. (d)(1)(F)(1).

7. The Air Resources Board shall exercise maximum discretion to permit the use of stationary and portable generators or auxiliary ship engines to reduce the strain on the energy infrastructure and increase energy capacity during the Extreme Heat Event.

8. Any permit, regulation or law prohibiting, restricting or penalizing the use of stationary or portable generators or auxiliary ship

engines allowed by this Order during the Extreme Heat Event is suspended.

9. The provisions in paragraphs 3-7 shall expire at 11:59 p.m. on August 20, 2020.

I FURTHER DIRECT that as soon as hereafter possible, this proclamation be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this proclamation.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 16th day of August 2020.

_____

GAVIN NEWSOM
Governor of California

ATTEST:

_____

ALEX PADILLA
Secretary of State