



February 15, 2019

Angela Csondes
Manager, Marine Strategies Section
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812-2815
Submitted Via Electronic Comment Log

Subject: Comments on *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* for the Proposed Control Measure for Ocean-Going Vessels At Berth and At Anchor

Dear Ms. Csondes:

The Port of Oakland (“Port”) appreciates the opportunity to comment on the *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* posted January 15, 2019, for the Proposed Control Measure for Ocean-Going Vessels At Berth and At Anchor (“Proposed Control Measure”). The Port understands that the California Air Resources Board (“CARB”) is planning for the Proposed Control Measure to replace the current Airborne Toxic Control Measure (“ATCM”) for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At Berth in a California Port (the “At-Berth Regulation”), with the goal of taking the Proposed Control Measure to the CARB Governing Board in December 2019. CARB posted the text of the Proposed Control Measure on August 31, 2018. The *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* was prepared in support of the Proposed Control Measure.

The Port supports CARB’s ongoing efforts to reduce emissions from ocean-going vessels (“OGVs”) at berth and is working diligently to maximize the number of vessel visits using shore power. Port staff work collaboratively with shipping lines to provide education and resources about the shore power program. Port staff also track shore power usage in real time, collecting detailed information from marine terminal operators and posting that information on the Port’s website for public information purposes.¹

¹ <https://www.oaklandseaport.com/development-programs/shore-power/>

The *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* document includes emissions from California ports and CARB-defined Marine Terminal Complexes (“MTCs”). The emissions for 2016 are tabulated in Appendix B, while emissions for other years are only represented graphically in figures in the document and in tables published by CARB on November 9, 2018.

Comments on the *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* are due to CARB February 15, 2019. CARB will then host a public workshop to discuss the emissions on February 26, 2019. After that, Port staff anticipate the need for a revised emissions inventory for the Proposed Control Measure that responds to public comments. The Port provides wharfing information to CARB annually as required by grant funding obligations. In addition, Port staff request that CARB staff work with the Port to refine assumptions made in the emissions estimates.

Given the scheduling of the public workshop after the public comment period has closed, this letter includes comments and questions that may best be addressed in the workshop. Thus, the Port is providing a list of comments and questions on the draft emissions inventory and topics for discussion at the February 26 public workshop.

Comments and Questions on the *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results*

1. Why was 2016 selected as the baseline calendar year for the emissions inventory? Does CARB plan to conduct in-depth emissions inventories for 2017 and 2018?
2. Table 4 of the *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* shows vessel visit counts to California ports and MTCs in 2016 only. However, current trends are for fewer calls by larger vessels for a given amount of containerized cargo. The discussion on page 25 of the draft clarifies that “vessel practice changes” are not considered, even as the total number of calls is dropping in real time. Since 2013, total annual calls to the Port have been decreasing. Container cargo throughput is thus decoupled from vessel call activity. CARB should expand the vessel growth forecasting for the baseline scenario to include the effects of larger vessels and fewer calls for the same amount of containerized cargo.
3. Table 7 of the *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* relies on the assumption that for all ports and MTCs, container vessel effective power will match that of the Ports of Los Angeles and Long Beach in 2016. The effective power does not appear to be a function of vessel size bin, so the level of detail with which the effective power is classified by CARB-defined size bin is not appropriate. In addition, given the variation between data from the Port of Los Angeles and the Port of Long Beach within the same CARB-defined size bin, the data may not be meaningful when averaged by CARB-defined size bin. CARB should use an average effective power for container vessels regardless of size.

4. The growth rates in the Freight Analysis Framework (“FAF”) for ports and MTCs outside of the San Pedro Bay are at odds with current trends. The FAF assumption for container cargo at the Port of Oakland is a 5% year-over-year growth rate between 2016 and 2020. Actual growth rates between 2016 and 2018 have not kept pace, with current Oakland planning documents estimating about half the FAF compound annual growth rate.² CARB should adjust the FAF growth forecasting for the baseline scenario to align with actual trends.
5. Page 27 of the *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* discusses statistical significance in the context of the emission forecasting. If CARB staff have conducted an uncertainties analysis, it should be included in the methodology and results document.
6. Table 15 of the *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* does not treat all ports and vessel types equally when assuming “Projected 2020 and Later Time on Shorepower,” without justifying the differences. For instance, CARB assumes container vessels at the Port of Hueneme spend 80% of their time on shore power after 2020, while CARB assumes at the Ports of Los Angeles and Long Beach container vessels spend only 65% of their time on shore power. Impossibly, CARB-defined size bins 7, 9, and 12 container vessels at the Port of Oakland are assumed to spend 100% of their time at berth on shore power.³ Port staff request further justification for and synchronization of the assumptions for “Projected 2020 and Later Time on Shorepower.”
7. In the discussion of the “static age distribution model” versus a survival and turnover model, CARB staff do not consider the abnormally high number of OGV keels laid in 2015. How did CARB decide that the spike in keels laid in 2015 was not material to estimating NOx emissions through 2050?
8. CARB should revise its assumption that sulfur content in fuel is 0.1% based on the results of enforcement analyses of in-use fuel sulfur. The sulfur content of in-use fuel as sampled by the CARB enforcement team in calendar years 2017 and 2018 is lower than 0.1% by 30% and almost 50%, respectively, presenting information that actual emissions are lower than those estimated by CARB. (As stated on page 12, information from CARB’s enforcement team is already used to determine reduced emissions from reduced engine activity time.)

² <https://www.portofoakland.com/community/environmental-stewardship/maritime-air-quality-improvement-plan/>

³ Vessels arriving at berth need time to tie lines and lower gangways before they can connect shore power and likewise vessels need time to disconnect from shore power when leaving the berth. With these bookends on each vessel call, a vessel cannot be plugged into shore power for 100% of the time at berth.

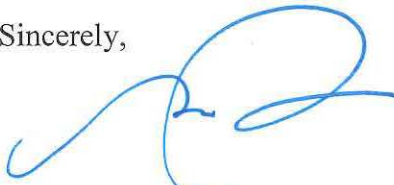
9. CARB should elaborate in the text on the Particulate Matter ("PM") emission factor for Marine Gas Oil ("MGO") at 0.1% sulfur. The 2007 Initial Statement of Reasons for At-Berth Regulation rulemaking used a value of 0.25 g/kW-hr for 0.1% S MGO. The *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* uses a PM emission factor of 0.18 g/kW-hr for the same fuel. The root source for OGV auxiliary engine emission factors is stated in both cases as the 2002 Entec study, with no description of why two different values of PM emission factors are used for the same fuel.
10. Please add References to the Table of Contents and to the document (Sources of emission factor information are only included at the end of Appendix A).
11. On page 42, should the last sentence read "it excludes emissions from boilers," not "it excludes emissions from auxiliary engines"?

Closing

Port staff look forward to working with CARB to support the updated emissions inventories referred to in the *Draft 2018/2019 Update to Inventory for Ocean-Going Vessels: Methodology and Results* after the workshop on February 26.

Please contact Catherine Mukai, P.E., Port Associate Environmental Planner/Scientist at cmukai@portoakland.com with any follow-up questions.

Sincerely,



Richard Sinkoff
Director of Environmental Programs and Planning