WSPA

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Vice President

February 15, 2019

Ms. Cynthia Marvin
California Air Resources Board
1001 I Street
Sacramento, California 95814

via e-mail at cynthia.marvin@arb.ca.gov

Re: Review of Proposed At Berth At Anchor Regulation Preliminary Health Analyses Data

Dear Ms. Marvin,

The Western States Petroleum Association (WSPA) would like to offer the following comments in response to the release of data related to the *Preliminary Health Analyses: Control Measure for Ocean-Going Vessels (OGV) At Berth and At Anchor.* WSPA is a non-profit trade association that represents 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 appreciates the continuing release of supporting information by the CARB with each additional set of data allowing stakeholders to further understand the analyses conducted by staff. Documentation released to date in support of revision of the proposed regulation includes modeling files for vessels at berth and at anchor as well as a draft inventory methodology for the development of the emissions inventory that acted as the input to the models. Upon review of the information provided by CARB staff, WSPA offers the following observations and concerns for consideration in the continuation of the regulatory development process.

Emissions Scaling and Risk Determination

The Draft OGV Inventory Methodology (henceforth referred to as Inventory Methodology) posted by CARB staff on January 16, 2019, was intended to serve as a supplement to the modeling files posted on December 14, 2018. While WSPA has concerns, as noted below, regarding the emission factors and inventories provided in this document, WSPA's main concern lies with the translation between these values and the modeling files themselves.

It is apparent in the modeling files that CARB staff modeled the emissions rate for all sources at a default emission rate of 1 gram diesel particulate matter (DPM) per second. CARB staff states that "the modeled concentrations are later scaled with the Existing Rule and with Concept years emissions." While WSPA would expect that true emission rates, as calculated and shown in the Inventory Methodology, would be utilized in the model itself for increased clarity and accuracy of the modeling results, we understand that the correct application of a scaling factor can also provide reasonable risk determination results. WSPA believes that CARB staff has not provided sufficient information to allow for translation of the modeling results at a default emission rate to the scale of the emission factors provided.

WSPA requests that CARB staff provide documentation of their calculation methodology for the determination of risk associated with the specific emission results shown in the Inventory

Methodology, including the methodology used for the allocation of modeled sources to vessel type.

Emission Factors

WSPA appreciates the additional information regarding emission factors utilized in calculations with the release of the Inventory Methodology. WSPA is concerned however that the emission factors do not provide an accurate characterization of the emissions resultant from engines and boilers aboard a modern fleet. Appendix A to the Inventory Methodology shows that the only emission factor affected by increase in engine Tier is that for NO_x. We know this not to be true. USEPA standards for higher Tier engines require emission reductions for hydrocarbons, carbon monoxide, particulate matter (PM) and more. The stagnant PM emission factor is of particular concern to WSPA as the calculated PM_{10} emissions rate is modeled as DPM for health risk assessment.

WSPA requests that CARB staff re-evaluate the emission factors used in their calculations and account for the emission reductions that are currently being achieved through the widespread use of Tier 3 and 4 engines across the fleet.

Vessel Visits and Time At Berth

The Inventory Methodology additionally provides details regarding the vessel visit and hours-at-berth inventory utilized in CARB's calculations. As CARB has not provided a step-wise methodology, it is WSPA's assumption that the number of vessel visits and average hours at berth were utilized in the determination of the appropriate number of sources to be included in modeling. Table 1 below shows the vessel visit counts and average time at berth as presented in Sections 3.1 and 3.2 of the Inventory Methodology, using the Port of Los Angeles and Long Beach (POLA/LB) complex as an example. Table 1 additionally calculates the total hours at berth for each type of vessel as calculated from the values above.

Port	Auto	Bulk	Container	Cruise	General	Reefer	Ro-Ro	Tanker
Vessel Visit Counts (Visits/Year)								
Long Beach	186	199	948	258	28	1	2	443
Los Angeles	83	89	1,291	118	47	17	24	236
Average Time At Berth (Hours)								
Long Beach	14	54	62	13	43	6	300	38
Los Angeles	22	73	54	12	63	34.9	34	44
Calculated: Total Hours At Berth for All Visits (Hours/Year)								
Long Beach	2,604	10,746	58,776	3,354	1,204	6	600	16,834
Los Angeles	1,826	6,497	69,714	1,416	2,961	593	816	10,384

Per the calculation above, vessels spent a total of 188,331 hours at berth at POLA/LB in 2016. Normalizing this number for an average day in the year, assuming 24-hour operation of vessels as CARB does in the modeling, WSPA calculates that the equivalent of 22 (rounded up) full-time vessels are present on any given day. In contrast, CARB's model for POLA/LB includes 108 discrete sources with the assumption that all are operating 24 hours per day. The above is

an example for one port complex but is inconsistent across all locations. WSPA appreciates that CARB's modeling accounts for growth rates applied to the number of visits at each port into future years but this does not close the gap of the observed inconsistency.

WSPA cannot re-create CARB's inventory using their own values and assumptions. WSPA requests that CARB re-evaluate and provide justification for the number of sources and operational hours included in their modeling.

In response to the concerns expressed above, WSPA is currently in the process of compiling data specific to the tanker sector marine terminals to further assist CARB in the development of an accurate emissions inventory. It is critical that CARB utilize an accurate emissions inventory for any health risk analyses.

Modeling Assumptions

WSPA would like to note that the air modeling performed by CARB staff does not include the effects of building downwash. While WSPA is aware that the overall regional impacts of the modeling with and without downwash are likely similar, this exclusion adds an additional layer of uncertainty to the results of CARB's analysis.

WSPA would like to re-iterate our concern regarding the use of a default emissions rate of 1 gram per second for all sources. WSPA seeks clarification on how the resulting health risk was scaled based on the emission results provided in Appendix B of the Inventory Methodology.

Additional Preliminary Health Analyses Document Comments

WSPA would like to additionally offer the following comments regarding specific elements of the Preliminary *Health Analyses: Control Measure for Ocean-Going Vessels At Berth and At Anchor*, released on December 5, 2018:

- Executive Summary (ES) page ES-3 indicates that the Airborne Toxic Control Measure (ATCM) for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in a California Port in 2007 protects (emphasis added) public health. If this is true and the existing ATCM sufficiently protects public health, what is the need for the proposed Concept (except as noted to assist with California's State Implementation Plan)?

- In ES-4, CARB staff indicates that they used air quality modeling to "quantify the health effects (cancer and non-cancer) that would be expected to result from that exposure". The language should be revised to clarify that modeling is used to provide an estimate of potential adverse health effects.

- ES-4 states that "The regional assessments use the results of the HRA, air quality monitoring, emissions inventory data and county-specific statistics on health outcomes"…"`attributable to emissions from ships at berth". It is not stated how available morbidity and/or mortality statistics could differentiate between ships-at-berth, at anchor, and diesel PM emissions from other more abundant vehicle and stationary source emissions.

- Section IV.B (Tables 19-21) show the number of estimated premature deaths, hospitalizations and emergency room visits from heart and lung disease that are solely associated with PM 2.5 exposure from vessels at-berth. Except for referencing USEPA estimates, CARB provides no basis for how these estimates are determined and linked to a specific source for use in deriving the Incidents-Per-Ton (IPT) factor.

WSPA requests that CARB provide the methodology used in the calculation of IPT values including inputs, assumptions and calculations.

WSPA appreciates the opportunity to provide feedback on this important issue. If you have any questions, please contact me at (805) 701-9142 or via email at tom@wspa.org.

Sincerely,