

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER R-09-003

Public Hearing to Consider the Adoption of Proposed Regulations for Fuel Sulfur and Other Operational Requirements for Ocean-Going Vessels Within California Waters and 24 Nautical Miles of the California Baseline

WHEREAS, on July 24, 2008, the Air Resources Board (the Board or ARB) conducted a public hearing to consider adoption of regulations to reduce emissions of diesel particulate matter, nitrogen oxides, and sulfur oxides from the use of main engines, auxiliary diesel engines and diesel-electric engines, and boilers operated on ocean-going vessels located within all California inland waters; all California estuarine waters; and within 24 nautical miles of the California baseline, including but not limited to the Territorial Sea, the Contiguous Zone, and any California port, roadstead or terminal facility, except as otherwise specified in the proposal, as set forth in the Initial Statement of Reasons released to the public on May 27, 2008;

WHEREAS, on July 24, 2008 following the public hearing, the Board adopted Resolution 08-7-4 (Resolution) in which the Board approved adoption of California Code of Regulations (CCR), title 13, section 2299.2; of an identical section at CCR, title 17, section 93118.2; and the incorporated documents (collectively "regulations"), as set forth in Attachment A to the Resolution, with the modifications set forth in Attachment B to the Resolution;

WHEREAS, the Resolution directed the Executive Officer, among other things, to conduct additional environmental analysis of the regulations to evaluate the possibility that more vessels may avoid the Santa Barbara Channel and take a longer route that is mostly outside the regulations' 24-nautical-mile zone and that passes through the U.S. Navy's Point Mugu Sea Range and, if such rerouting occurs, whether it may result in adverse environmental impacts; to make that analysis available for a public comment period of at least 15 days with such additional conforming modifications as may be appropriate; to consider all relevant comments submitted during the comment period; to incorporate into the amendments any additional modifications the Executive Officer determines to be appropriate; and to bring any proposed changes to the Board for further consideration if the Executive Officer determines that this is warranted;

WHEREAS, the Resolution also directed the Executive Officer to make appropriate findings under the California Environmental Quality Act, Public Resources Code section 21000, et seq. (CEQA); to adopt a Statement of Overriding Considerations, if appropriate; and to return to the Board for further direction if the Executive Officer determines that this is warranted based on the results of the supplemental environmental analysis and the comments received;

WHEREAS, at the Board's direction, ARB staff prepared a Supplemental Environmental Analysis of Potential Impacts From Changes in Southern California Vessel Routing as a Result of the ARB Ocean-going Vessel Fuel Rule, dated February 2009 (supplemental environmental analysis), which analyzed potential environmental impacts that the regulation could indirectly cause if the regulation were to result in significantly fewer vessels using the Santa Barbara Channel on their way to and from the Port of Los Angeles and Port of Long Beach;

WHEREAS, on February 19, 2009, the supplemental environmental analysis prepared by staff, along with modifications to the regulations and additional materials relied upon by ARB, were made available for public comment for a period of 32 days, with the changes to the originally proposed text clearly indicated in accordance with the provisions of CCR, title 1, section 44;

WHEREAS, a number of written comments were received during the comment period ending March 23, 2009 and those comments, as well as the comments received during the initial 45-day comment period, have been considered by the Executive Officer;

WHEREAS, based on an analysis of the entire record, including the Staff Report, supplemental environmental analysis, and written comments and public testimony received, I find that:

1. For the reasons set forth in the Staff Report and in the supplemental environmental analysis, the regulations alone or the regulations in combination with a possible future vessel speed reduction measure are not likely to cause a significant shift of commercial vessel traffic out of the Santa Barbara Channel and through the Point Mugu Sea Range (such a shift in routes is subsequently referred to as an "avoidance strategy" since the purpose would be to minimize the need to comply with the regulations' low-sulfur fuel requirements);
2. If a significant number of vessels were to adopt the avoidance strategy, the following environmental effects would result:
 - a. Ocean-going vessels would emit slightly more oxides of nitrogen (NO_x) and hydrocarbons (HC) than they currently do. These emissions would increase as use of an avoidance strategy increases, and at 100 percent avoidance, would amount to an additional 17 tons per day of NO_x emissions (approximately 8 percent above the baseline) and an additional 0.8 tons of HC per day (approximately 11 percent above the baseline) compared to the 2005 no-regulation baseline listed in the supplemental environmental analysis and detailed in the Staff Report. Model runs show that implementation of the regulations with use of an avoidance strategy by 50 and 100 percent of vessels would reduce maximum 8-hour ozone levels in certain on-shore coastal areas north of the Port of Los Angeles and the Port of Long Beach, but increase maximum 8-hour ozone levels in other locations. At a 50 percent avoidance

strategy, ozone concentrations would increase approximately 1 percent in certain areas directly east of the ports and in some areas of coastal San Diego County. If all vessels adopted an avoidance strategy, ozone levels would also increase in certain areas north and east of the ports and in San Diego County; these increases affect a greater area than the increases under the 50 percent scenario, but the magnitude of the increases is slightly less than under that scenario. Weighted for population, the 50 percent avoidance strategy scenario would increase ozone exposure in the region by 0.02 percent over the baseline, resulting in an estimated 10 premature deaths a year. The 100 percent scenario would result in a decrease in population-weighted exposure by 0.34 percent compared to the baseline, avoiding 12 premature deaths a year. Although the local increases in ozone are small, they nonetheless represent a significant adverse environmental impact from the regulations in the unlikely event the regulations result in use of an avoidance strategy by many shippers.

- b. Even if an avoidance strategy was used by 50 or 100 percent of all vessels that would have previously used the Santa Barbara Channel, the regulations would dramatically reduce fine particulate matter (particulate matter less than 2.5 micrometers, or PM_{2.5}, which includes most primary diesel particulate matter, primary particulate matter and secondary formed particulate matter) and reduce the emission of oxides of sulfur (SO_x). The regulations would reduce PM_{2.5} emissions from ocean-going vessels by nine tons per day (47 percent below the baseline) with 50 percent of vessels using an avoidance strategy, which would avoid 600 premature deaths a year. With 100 percent of all vessels adopting an avoidance strategy, PM_{2.5} would be reduced by seven tons per day (36 percent below the baseline), which would avoid 500 premature deaths a year.
- c. The regulations would result in higher carbon dioxide (CO₂) emissions if a significant number of shippers use an avoidance strategy than if an avoidance strategy is not widely used. With 50 percent use of an avoidance strategy, CO₂ emissions would increase 164 tons per day over the baseline vessel emissions level (a 2 percent increase), and 100 percent use of the avoidance strategy would increase CO₂ emissions by 665 tons per day over the baseline (a 7 percent increase). These increases are in addition to the maximum 55,000 tons per year (50,000 metric tons per year) -- or 151 tons per day (137 metric tons per day) -- in potential net increases in the regulation's net fuel-cycle CO₂ emissions (which includes the emissions from feedstock extraction, processing at refineries, fuel distribution, and fuel consumption). The Board previously determined that the increase of a maximum of 151 tons (137 metric tons) of daily net fuel cycle CO₂ emissions constituted a significant adverse environmental effect under CEQA despite the fact it was an extremely small amount compared to global CO₂ emissions, which are on the order of billions of metric tons of CO₂ per year. In light of the previous finding of the Board and the conclusions in the supplemental environmental analysis, the increased net fuel cycle CO₂ emissions from the regulation combined with the increased CO₂ emissions that would occur with

high use of avoidance strategies represent a significant adverse environmental impact even though these increases are extremely small compared to global CO₂ emissions.

- d. If the cumulative impacts of this regulation and a future vessel speed reduction measure combine to cause a significant proportion of shippers to use an avoidance strategy, the cumulative effect on 8-hour ozone levels may be significant and the regulations' contribution to that significant impact may be cumulatively considerable.
3. The regulations are necessary in order to protect public health by reducing diesel PM and other emissions from ocean-going vessels operating in Regulated California Waters; even assuming the worst-case scenario of 100 percent use by shippers of an avoidance strategy in the Southern California region, the regulations will avoid 590 premature deaths a year, as described in the supplemental environmental analysis;
 4. There are no feasible mitigation measures or alternatives that would avoid or substantially reduce any of the significant adverse impacts of the regulations while ensuring that basic objectives of the regulations would feasibly be attained.
 5. The considerations set forth above and those in the Resolution override the adverse significant environmental effects that may occur from an increase in CO₂ from ocean-going vessels operating in Regulated California Waters and, in the event the regulation results in large-scale use of avoidance strategy, also override the significant adverse effects that may occur from increased NO_x and HC emissions that produce higher local levels of ozone, further increases in CO₂ emissions from vessels employing avoidance strategies, and cumulative air quality impacts.
 6. The findings set forth in this Executive Order do not substantially alter other findings of the Board as set forth in the Resolution.

WHEREAS, Attachment 1 to this Executive Order contains the regulatory text of CCR, title 13, section 2299.2 and CCR, title 17, section 93118.2, reflecting the modified regulatory text made available for the supplemental 32-day comment period;

NOW, THEREFORE, IT IS ORDERED that the recitals and findings contained in Resolution 08-7-4 are incorporated by reference in this Executive Order.

IT IS FURTHER ORDERED that I hereby approve each of the written responses in the Final Statement of Reasons that responds to a comment raising a significant environmental issue, as required in CCR, title 17, section 60007.

